The Journal of the American Medical Association

Published under the Auspices of the Board of Trustees.

VOL. XXXVII. CHICAGO, ILLINOIS, OCTOBER 12, 1901. No. 15.

Original Articles.

SOME UNUSUAL FEATURES OF APPENDICITIS AND THEIR TREATMENT.*

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The protean character of various forms of pathological conditions, grouped under the head of appendicitis, offers the surgeon an unusual and often unforeseen group of clinical, as well as pathological, manifestations. The varying size and anatomic appearance of the appendix, the various movements through which it passes in peristaltic action, the various directions in which it might permanently locate itself, from the adhesions it is likely to make during the course of a surrounding inflammation, make the possible resulting pathological lesions almost numberless. Should a case be submitted to operation a very short time after the initial symptoms present themselves, the purpose of this paper would be eliminated, for nothing would be found but a displaced appendix adherent to the colon, ileum or retroperitoneum. Possibly when an anomaly takes place, an adhesion to surrounding organs might be found, and the operation or cure of the condition would consist simply in a careful dissection of the adherent and inflamed appendix. Not until the profession and the laity are convinced of this fact will there disappear from clinical surgery the complicated and distressing cases, which, unfortunately, form the subject of these lines. As on a former occasion, I repeat the following proposition: "In every case of fatal appendicitis, there was a time when, had the operation been performed, the patient would have survived." This is true no matter what complications or unusual phases the peculiar anatomic conditions of the case would likely produce in the eventual course of the disease. Granting, as we know, that the first symptoms of appendicitis are persistent pain, even after evacuation of the bowel, and that, therefore, at that stage, nothing more than a mere adhesive peritonitis or perityphlitis ought to be as yet the pathological lesion. Neither the profession at large nor the laity have yet realized the truth of this proposition, and it follows and possibly will continue to follow, that various anomalies in a case will result from certain unusual complications, some few of which I desire to draw your attention to at present.

CASE 1.—A young man, aged 26, complained of constant pain in the left iliac region, the character of which seemed almost like that in acute intestinal obstruction. A differentiation was made by the attending surgeon, who promptly obtained an evacuation by the administration of salines. After slight relief of the condition, the pain returned with redoubled intensity. Rigidity, however, existed in the right iliac region, the pain being distinctly in the left. This made the diagnosis uncertain, and hence a medical treatment was persisted in, with only an increase of the pain, elevation of temperature and increase of pulse. Three days after the appearance of the pain the patient was taken to the Medico-Chirurgical Hospital, and was immediately submitted to operation. A mass was found adherent to the anterior parietal peritoneum, and, with difficulty, separated. Evidences of radiating peritonitis existed, and, as yet, no pus had formed, although the end of the appendix presented a gangrenous appearance while fastened to the peritoneum. The appendix was dissected away, cut at its base flush with the colon, and the edges inverted, treating the opening as a gunshot wound of the abdomen. The surrounding adhesions were scraped and disinfected with a gauze sponge, dipped in a 1 to 1000 bichlorid of mercury solution, and the surrounding parts carefully packed with iodoform gauze. The patient made an uninterrupted recovery.

The lesson learned in this particular case was the reflex character of the pain, which the patient insisted he felt on the left side, tending to deceive the surgeon. The persistent induration of the abdominal walls on the right side, showing a local reflex contraction, together with a return of the pain after copious evacuation, eliminated any direct intestinal obstruction, and pointed out the existence of a local intraperitoneal irritation directly under the indurated muscle. In this connection we should remember that the law of reflexes is varying and deceptive, whereas, the law by which a muscle that is irritated, contracts and becomes indurated, is positive, constant and unchanging. Hence, rather than be led to the operative procedure by the uncertain character of the pain, it is wiser to base our opinion upon the positive evidence of the induration of the muscle in a certain locality, though the pain be felt at a distance.

CASE 2.—A man, aged 42, was taken to the Medico-Chirurgical Hospital, suffering with what his attending physician supposed was an abdominal tumor on the right side, encroaching upon the right inguinal region. There had been no acute manifestations, though the patient had long complained of obscure pains in that region. The temperature ranged between 99 and 100, while the pulse was about 90, the patient being somewhat emaciated. Physical examination revealed an indurated mass, immovable and not circumscribed. There was a tendency to diarrhea in the case. The blood count was taken, 20,000 white blood corpuscles were found to a cubic millimeter, thereby not giving us much information so far as the relation of leucocytosis to the formation of pus was concerned. The peritoneum was opened by a line of incision, extending from the cos-

* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee of the Section: Drs. W. J. Mayo, H. O. Walker, and A. J. Ochsner.

tal cartilage to the crest of the ilium. No adhesions were found and a hard mass, simulating a retroperitoneal sarcoma, was felt. Prolonging the incision to the iliac region, the appendix was found sloughed off at the end and penetrating this large mass. It seemed then that the diagnosis of a retroperitoneal sarcoma was correct. Knowing the uselessness of attempting to remove such a tumor on the one hand, and the advisability of establishing a positive diagnosis on the other, it was determined to explore the nature of the tumor. An incision revealed a wall, thickened to the extent of three-quarters of an inch, leading to a large abscess cavity. The introduction of the finger within the cavity led to a point where the appendix was adherent to the abscess, having caused a retroperitoneal abscess, which grew to an enormous size, developing thickened walls, and subsequently simulating a retroperitoneal sarcoma. The pus was examined and was found to be free from living organisms, though still containing streptococci and staphylococci that had not undergone disintegration. This would explain the comparative freedom from inflammatory symptoms in the patient. The abscess was thoroughly drained, scraped, washed and packed with iodoform gauze. From this case we should be reminded of the uncertainties of a positive diagnosis in abdominal tumors, and should, whenever practicable, give the patient the benefit of a positive opinion, which can only be gotten, without disadvantage, by exploratory incision under modern aseptic precautions.

CASE 3.—A young man, Italian laborer, aged 25, had been convalescent from typhoid fever, and suffered obscure pains in the right hypochondriac region, slight jaundice, but no elevation of temperature. He had often heard of appendicitis, and was convinced, though he spoke very little English, that he was suffering with this condition, explaining that he was assured of this fact. His symptoms were decidedly limited to the region of the gall-bladder. There was slight induration in the right iliac region and constipation. Owing to the persistent jaundice and the pain, a diagnosis of possible gallstones was made, and an exploratory incision was resorted to, over the gall-bladder. This was found somewhat enlarged and containing pus, a cholecystostomy having been performed. While we had made a diagnosis of cholecystitis, and had said nothing about removing the appendix, the patient made us promise that we would explore the region of his appendix. To this we consented. We accordingly made an exploratory incision in this region, and to my great surprise the real seat of his disease was found. The appendix was gangrenous and pus had formed about it. Considerable peritonitis existed, which, if not checked, would have ended fatally. The parts were carefully cleansed, the appendix resected, and both cholecystitis and appendicitis were removed at the same operation. It has often been suggested of late that there may be an intimate connection between the etiology of some forms of these conditions. This case presented a history of typhoid fever, as well as grippe, leaving the system in a reduced condition, unresistant to the invasion of certain organisms and predisposed to the development of metastatic abscesses. There is no wonder that two organs so similarly constructed, histologically, as the gall-bladder and the appendix, should become a prey to the development of organisms from similar causes. Both are connected directly with the intestinal tract, by continuity, only the gall-bladder connecting with the gut from a greater distance and at a point where ferments and organisms have not yet attained great virulence, while the appendix connecting with the gut at a point where practically the intestinal contents have fully served their nutrient purposes, and have become foul refuse matter, ready to enter into the colon as a reservoir. This would explain, in a measure, the greater frequency of the infection of the appendix from the gut than the gall-bladder, but if we presuppose a very much depressed condition of the system where phagocytes are weak and insufficient in number, it does not matter so much whether the organ invaded be the gall-bladder or the appendix, whether the organism of infection be from the duodenum or the ileo-cecal region, both gall-bladder and appendix are weak and receptive, the whole system being also depressed, germs may be of uniform virulence the whole length of the intestinal tract, and would tend, therefore, to produce an inflammation of the same character in the gall-bladder at the origin and in the appendix at the end of the small intestine.

CASE 4.—A man, Italian, aged 40, was admitted to the Medico-Chirurgical Hospital, suffering with symptoms of chronic intestinal obstruction. There had been gradually more and more difficulty in obtaining evacuations in spite of purgation. A distinct tumor was felt, movable, within an area of 3 inches radius around the umbilicus. There was no fever and pulse was rapid, though strong. The gastro-intestinal irritation and symptoms of dyspepsia suggested the possibility of a floating kidney, though it was impossible to return the tumor to the region of the kidney. An exploratory incision was determined upon, and I must acknowledge that I scarcely had any other condition in mind, as a possible explanation of the symptoms, than carcinoma of omentum or intestine, or floating kidney. On opening the abdominal cavity a large kidney-shaped tumor was found, directly under the umbilicus, consisting of omentum, ileum, colon and mesentery. This mass had formed no adhesions with the peritoneum, but was freely movable, as had been discovered on clinical examination. As the tumor was unraveled and dissected out, a foul abscess was opened, the omentum was resected, the ileum separated from the colon, and an appendix about the size of a thumb was found, having become gangrenous from a perforating fecal concretion. There had been a loosening of the caput coli from the ileo-cecal region, an adhesion to the omentum, which probably drew the parts up to the umbilicus, and a chronic appendicitis had developed away from the normal location of the organ. The appendix was resected, the gut scraped thoroughly with a curette, washed with a bichlorid solution of 1 to 1000 and a gauze sponge introduced so as not to allow the rest of the abnormal cavity to become irritated. The ileo-cecal portion of the intestine was pulled back to its normal position and fastened there to the abdominal wall, while the seat of the inflammation was thoroughly packed with iodoform gauze. Here again, owing to the limitation of the infection, granulations immediately set in and the patient recovered without any further complication. This was another instance of the difficulty of making a positive diagnosis. As I can now retrace the course of the affection, I would venture to say that the adhesion of the omentum to the cecum took place first as a result of the inflammation, there being no other adhesions, the violent contraction and thickening of the omentum gradually lifted up the ileum and cecum to its new position near the umbilicus. In this instance, owing to

a lack of adhesions between the inflamed parts and the parietal peritoneum, there was no induration of the abdominal wall, which would lead us to locate an inflammatory condition immediately under it, showing a marked contrast from Case 1, where the inflamed parts were found directly under the indurated portion of the abdominal wall.

It is generally agreed that appendicitis, as such, does not kill, but the peritonitis, incident to the appendicitis, is what proves fatal. The dreaded complication of this widespread affection, therefore, is peritonitis, and he who successfully meets the complicating peritonitis would prove most successful in the treatment of this condition. It behooves us, therefore, to thoroughly understand what we are attempting to achieve before saying that we have succeeded or we have failed in arresting the peritonitis, incident to appendicitis. Therefore, in every case of appendicitis, three different periods should be established:

1. The period of appendicitis, properly so-called; by that I mean such pathological conditions and symptoms resulting therefrom, as are limited to disease, as yet existing in the appendix proper.

2. The stage of peritonitis, resulting therefrom, is limited to a primarily acute or primarily chronic inflammation of the peritoneum, starting from the region of the appendix and spreading thereafter.

3. The stage of septicemia, which means a septic condition of the blood, resulting from poison developing therein, which poison was absorbed from an infectious appendiceal peritonitis.

These three propositions being clearly established, we will say, that for the first, that is, when the inflammation is strictly limited to the appendix proper, the curative measures are medical, when at first successful; operative, when the first medical attempts at relief have failed.

The second condition is the one generally found in its mildest expression, when small adhesions are found about the appendix, and in its most marked expression when an acute abscess, circumscribed or very lately perforated, exists. In this class of cases, while there is a peritonitis, chronic or acute, according to the particular conditions present, the peritonitis is a peritonitis, no more or less, that is, an inflammation of the peritoneum, a condition corresponding to a circumscribed abscess when the condition is chronic, or else if the abscess has broken and has started a general peritonitis, a condition corresponding to a recent perforating gunshot wound of the intestine or a recent perforating ulcer of the stomach or a recent perforating Peyer's patch in typhoid fever. Just as these varying conditions warrant an early operative course to be of a successful issue, so also in these forms of peritonitis from a chronic appendiceal abscess that has perforated or an acute peritonitis set up by the appendicitis, we may hope for success by applying the same principles of rapid operative procedure before the infection becomes generalized and rises from a mere peritonitis to one of septicemia. Upon the treatment of this stage of the condition little need be said. Carefully cleansing the operative field, flushing the abdominal cavity, or if the abscess has partaken of a chronic character, carefully packing with iodoform gauze, so as to isolate the rest of the abdominal cavity, meet the indication and give success.

Not so, however, when we consider the third and most important division of our subject. When the spread of the peritonitis has been such as to have started a septicemia, and both peritonitis and septicemia have joined hands to destroy the patient, what is best to be done? Usually, we simply wash out the abdominal cavity, close to the abdomen, drain with gauze and tube from the most dependent portion and let the infectious elements of the abdomen still develop, furnishing more food for the septicemia that has already started. Shall we continue for a period our attempts at utter destruction of the local peritonitis or local peritoneal infection, preventing further toxins from being absorbed into the general economy, and hoping thereby that the septicemia already set up will be taken care of and destroyed by the still powerful phagocytes? It strikes me that the indication is clear that we must take it for granted that the phagocytes will compete more successfully with a slight amount of septicemia, the sources of which will be shut off, than with a septicemia which is continually increasing by constantly forming toxins taken up from the peritonitis. It would be vain to hope that any form of local peritoneal treatment should destroy the septicemia existing to an utmost degree in the general economy, but it is not vain to hope that local treatment may stop a peritonitis, which, though it be accompanied by the beginning of a septicemia, would ultimately produce a septicemia beyond the control of phagocytic action. Therefore, in the treatment of peritonitis, the two elements to consider are the peritonitis as such and the accompanying amount of septicemia that it has already caused.

This local treatment of peritonitis, whereby the arrest of a progressive septicemia may be hoped for, should consist, I believe, in a constant and persistent flushing of the peritoneal cavity, for at least a few hours after the operation. This should be done, as I described nearly two years ago, by continuous irrigation of the peritoneal cavity with a normal saline solution. It should be applied during the operation at the temperature of 100 Fahrenheit, and maintained after the operation by a system of irrigation, as follows: A glass tube is introduced to the bottom of the pelvis, which is connected with a rubber tube, leading to a basin under the bed. A small tube is introduced at the superior extremity of the wound and is placed in connection with the irrigating apparatus, which latter should be only a few inches higher than the patient. The wound is closed tightly between the two tubes. A continuous irrigation will follow and should be kept up according to the necessities of the case. The immediate effects will be stimulation of the heart action, a general irritation of the peritoneum, promoting phagocytosis, a restraining effect upon the development of local organisms, and a dissolving of the toxins, and draining them away from the abdominal cavity. This, I say, is the direct application of the peritoneum to the principle we have found in general surgery so effective. The indications are the same, just as in general surgery, these local irrigations, though indicated, can not cure the septicemia that has already resulted from an infected limb; so also in a peritonitis, this irrigation can not cure the marked septicemia that has already started, but, just as in an infected limb, this continuous irrigation will restrain the development of organisms, which might otherwise result in a general septicemia; so also the general peritonitis, the continuous irrigation will restrain the development of micro-organisms, which otherwise would intensify the septicemia, rendering it beyond the

control of the body. While this method is strictly based on surgical principles, it must not be expected to exert directly more than a local action upon the peritoneum, destroying the source of infection therefrom. Latterly, saline venous transfusions have been strongly advocated in the treatment of general septicemia. Inasmuch as absorption is very free from the peritoneal cavity, we would be warranted to expect even some general benefit from the continuous peritoneal irrigation. However, the important point to remember is not to discredit the beneficial action of irrigations, on account of its failure to destroy septicemia when it has already invaded the general economy. It would be uninteresting to relate the several cases that I have successfully treated by this method. We are justified, I believe, in concluding that, owing to the general acute nature of the peritonitis, the cases would have progressed otherwise to a fatal termination. In one instance the irrigations were kept up for three days; this, however, is not absolutely necessary, as the formation of fibrin from the irritation of the salt solution may impede the dissemination of the irrigating fluid before this time. At all events, the irrigation should be kept up as long as the fluid freely drains from the abdominal cavity. The essential precaution to be taken is that the flow of fluid be free and continuous, otherwise a hydrostatic pressure is produced within the abdominal cavity, tending to impair, mechanically, the function of the diaphragm in respiration. The hopelessness of many of these cases surely warrants a faithful trial of the above method.

THE KNOT WITHIN THE LUMEN IN INTESTINAL SURGERY;

WITH REPORT OF NINETEEN CASES.*

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The history of the location of the knot in intestinal surgery might be said to be the history of that branch of surgery itself, for, it would appear, that everything has hinged on the knot and its location. When this was outside of the abdominal wall intestinal surgery was in its infancy. The methods were crude, and the mortality high. As the knot began to make its way inward this branch of surgery advanced as a science. Crudity was replaced by a more perfect technic, and, as a result, the mortality rate was greatly reduced. Literally, the involution of the knot might be looked upon as the evolution of enterorrhaphy.

A brief glance at the various steps may not be out of order. It confirms the above and shows that the trend of surgical thought from the earliest times to the present has been a search for the best location for the knot.

In this quest there was a gradual progression from without inward. This may be divided into five stages, as follows:

1, outside of abdominal wall, artificial anus; 2, outside of the intestinal wall, anchored to the abdominal wall; 3, outside of the intestinal wall, in the free peritoneal cavity; 4, outside the intestinal wall, buried between the opposed serous surfaces, and 5, inside of the intestinal wall, on the mucosa.

Attempts to place the knot within the lumen have been made by Vesein, Bishop, Maunsell, Ullman, Cheatle and Hartigan. Breidenbach's suture has been described as "tying the knot on the inside of the lumen of the bowel." Correctly speaking, the knot is not in the lumen, but between the two inverted and coapted margins. It, therefore, cannot be properly included in this list. Czerny and Wölfler merely add a mucous stitch to the ordinary Lembert.

Maunsell was the first to introduce a suture in such a manner that the knots of all the stitches employed in the enterorrhaphy proper, were within the lumen. But this he accomplished by making a secondary longitudinal incision, which he closed with Lembert stitches.

The method here presented, where the knots of all the stitches are within the lumen, was first employed by the author in October, 1898. The possibility of placing all the knots within the lumen in enterorrhaphy is no longer in doubt, but the advisability of such a procedure is still a disputed question with those who never used it.

The chief objection raised to such a location of the knot, is that it necessitates the perforation of all coats of the bowel wall. But the perforation of all coats when the knot is placed within the lumen, and the perforation of all coats when the knot is in the peritoneal cavity, are not the same. These two conditions differ so widely in practice that they cannot be placed in the same class.

It may be admitted that in both cases a communication is established between the lumen and the serous coat of the bowel wall, with the resultant possible danger of leakage followed by peritonitis, either general or local, depending upon the virulence or quantity of the infective material and the natural resistant power of the peritoneum. However, we are led to believe that even with the knot on the serosa, this danger must be small, as the instances where the needle penetrates into the lumen while endeavoring to take a Lembert stitch must be numerous. The fact that the danger is not great can be seen from the results by T. H. Manley following the method of M. E. Connell.

Yet this danger, no matter how small, can and should be reduced materially by reversing the stitch. Then it will be inserted so that the knot is within the lumen, leaving but little, if any, of the loop on the peritoneal surface. By this simple reversal, the danger of infecting the peritoneum by using a stitch that perforates all coats, is reduced to a minimum and is practically removed.

In support of this position we point to the results obtained by original experimentation, and the nineteen cases on the human being herewith reported, as well as the cases of Maunsell and his followers.

With the knot on the serosa, there are present the following conditions: 1. The major portion of the stitch, the knot and ends, is in the free peritoneal cavity. 2. The size of this portion, the knot and ends, prevents perfect apposition of the serous surfaces external to the knot. 3. The drain, the suture material, is broken on the serous coat at the cut ends, so that if capillary action does convey infective material through the wall, it may siphon from the cut ends on to the peritoneum.

On the other hand, with the knot and ends in the lumen, and the loop perforating the serous coats, the conditions are exactly the opposite. They are in this case as follows: 1. The major portion of the stitch, the knot and ends, is on the mucosa, not in the free peritoneal cavity. 2. A small portion only of the loop can be in the free peritoneal cavity, and, if the square stitch is used, a much smaller portion is there than if the cir-

* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee of the Section: Drs. W. J. Mayo, H. O. Walker, and A. J. Ochsner.

cular one is employed. This almost microscopic portion of suture material which passes directly through the two apposed serous surfaces, allows of ample sero-serous apposition distal to it. Thus it is isolated entirely from the free peritoneal cavity. 3. That portion of the stitch between the serosæ of the apposed bowel walls is continuous, not broken, at this point. The natural tendency will then be for the infective material, if it ascends, to pass along the path of least resistance, i.e., from the knot and ends on the mucosa, along the suture material, through all coats of the apposed walls and back again to the knot on the mucosa, there being no knot on the serosa to check and spread it. As Dr. Ferguson[1] has tersely expressed it: "All the knots being on the internal aspect of the bowel, it takes very little sero-lymph to seal up the peritoneal surface, and any drainage that takes place along the suture from the mucosa towards the peritoneum, will be at once returned by capillary attraction to the inside of the bowel." (See Fig. 5.)

From these conditions it may be concluded that the ideal location for the knot is outside and not inside of the peritoneal cavity. As it is impracticable to place it outside of the abdominal wall, it is located in the lumen of the canal, which is still outside of the peritoneal cavity.

Deductions from the above would indicate that stitches which perforate all coats of the bowel wall should be knotted in the lumen. And, conversely, a stitch which is knotted on the serosa should not communicate with the lumen.

That brings up the questions: Is it possible to introduce a firm intestinal suture without communicating with the lumen; and again, if possible, is it practicable?

It is now generally conceded that an intestinal suture to be reliable must include some part of the submucous layer, the one coat of the intestine which has textile strength, and which offers more resistance than will the muscular coats and the serous coat combined. In order to properly introduce an intestinal suture which is knotted on the serosa, the stitch must *penetrate* but *not perforate* the submucous coat. Penetrate to prevent yielding, for "a stitch that includes only the two outer coats yields like putty." But it must not perforate, to prevent infection by capillarity, for, "if the submucosa is perforated the intestine is almost certainly entered."

On the other hand, if all coats are included, and the knot is located in the lumen, no attempt to split the submucosa is necessary.

Halsted,[2] in speaking of this coat, said:

It is remarkable that no one has recognized the important part which this coat should play in operations for intestinal suture. It is still more remarkable that surgeons could have altogether overlooked the existence of the submucosa. And, it is perhaps most remarkable that experimenters and writers should without exception believe that it is possible to take a stitch of the peritoneal coat alone. The crude views of Jobert and Lembert, as to the construction of the wall of the intestine, have been universally accepted by surgeons up to the present time. The peritoneal coat is believed to be thick enough, and sufficiently strong to hold a stitch, and the existence of the submucous coat has been ignored.

Kelly[3] calls attention to this as follows:

Regarding the fibrous coat of the intestine, the most valuable contribution which has yet been made to intestinal surgery is the demonstration by Dr. Halsted, of the fact that the essential feature in any suturing or anastomotic operation is the employment of the submucous intestinal coat.

It may not be out of place to call attention to what appears to be an error that has gained wide circulation. That it was unintentional is not to be doubted, nevertheless it is remarkable that two acknowledged authorities should entirely overlook the researches, experiments, observations and conclusions of a man who might be called the father of American surgery. For it is evident that they are not familiar with that classic on intestinal surgery, published in 1843 by S. D. Gross, then of Louisville, Ky., who made observations on this same coat, as will be seen in his monograph

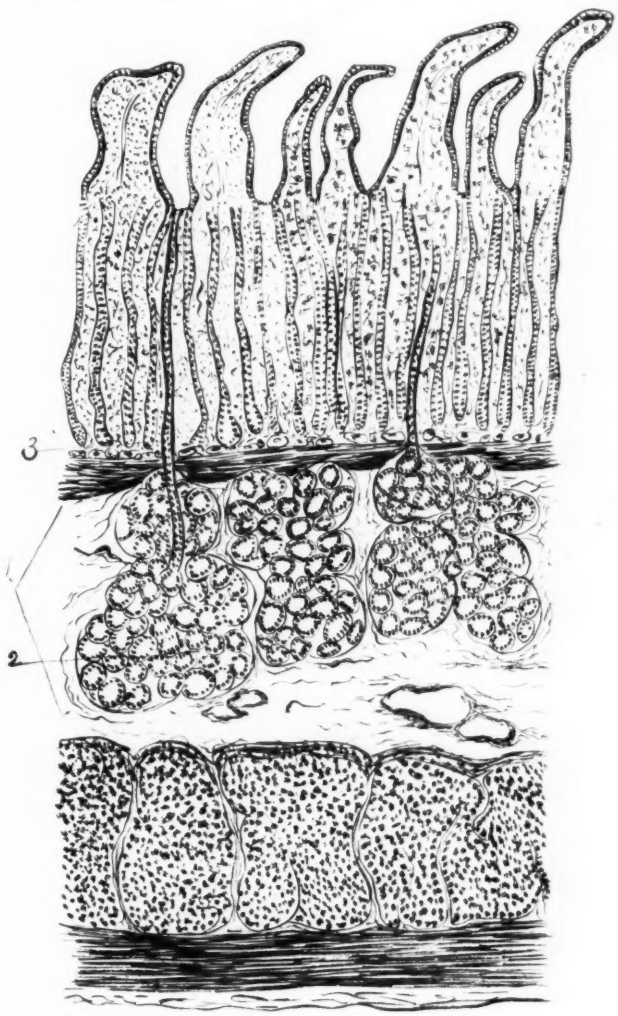


Fig. A.—Section of duodenum (after Piersol). 1. Submucous coat. 2. Glands of Brunner. 3. Duct of gland.

entitled, "An Experimental and Critical Inquiry into the Nature and Treatment of Wounds of the Intestine."

On the structure of the alimentary canal, while speaking of the "outer membrane," he says: "Hence, if, in sewing up a wounded intestine, the ligature be merely carried through the serous investment, it will be almost certain to be torn out." And further, after speaking of the "muscular tunic," he says: "Lying beneath this muscular plane is the celebrated *nervous tunic*, as it was called by the *ancient* writers. Alternately admitted by some, and rejected by others, this layer has been recently described by Monsieur Cruveilhier, under the name of the *fibrous lamella*, in consideration of its structure, which closely assimilates itself to that class of

1. Chicago Med. Rec., December, 1900.
2. Johns Hopkins Hospital Bulletin, 1891.
3. Operative Gynecology, vol. ii, p. 50.

tissues. . . . Strong and resisting, it is semi-transparent and devoid of elasticity. . . .The filaments, of which it consists, interlace with each other in every conceivable manner, forming thus a very close network. . . . It readily reunites when divided, as *I have witnessed in numerous experiments,* and deserves to be attentively studied, *as it is the membrane through which the surgeon should always carry his needle in sewing up wounds of the intestine."* (Italics are ours.) Thus proving that he not only knew the anatomical peculiarities and properties of this layer, but that at this early date, 1843, he also realized the importance of this layer from an operative standpoint, and emphasized its surgical significance.

In considering the first question above proposed we should bear in mind the location of Brunner's glands.

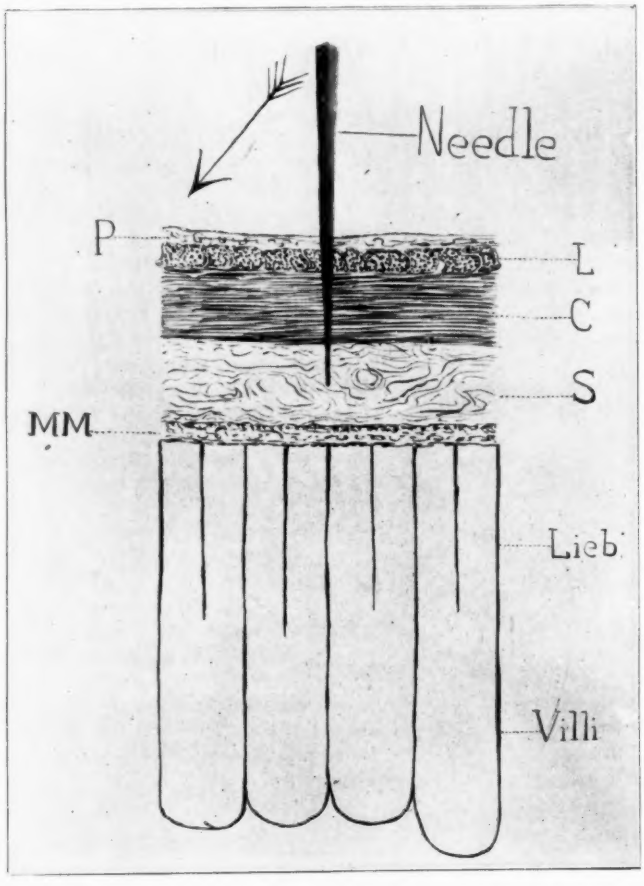


Fig. B.—P, Peritoneum; L, Longitudinal muscle; C, Circular muscle; S, Submucosa; MM, Muscularis mucosa; Lieb, Glands of Lieb. Reproduction of Dr. Halsted's illustration in J. H. H. B., 1891.

These are small, long and sometimes compound, lined with columnar epithelium, the duct of which opens upon the mucosa. These glands are peculiar, in that they are confined to the duodenum, and that the fundus is located in the submucosa. (Fig. A.)

If a stitch enters the serosa of the duodenum, and includes a part of the submucous layer, there is no certainty that it does not pass through one or more of these glands of Brunner. Should this occur the result will be a stitch which penetrates the submucosa, yet communicating with the lumen and knotted on the serosa. Of course, each and every stitch put into the submucosa of the duodenum may not involve the fundus of a Brunner gland. But, not knowing their exact situation, they can not be intentionally avoided. Then as this danger—communication with the lumen—can not be purposely excluded, it is an unsafe procedure to insert in the duodenum stitches which include the submucosa and are knotted on the serosa.

Similarly unsafe, on account of yielding, are stitches which do not include the submucosa. To diminish the first danger—capillarity — and eliminate the second—that of yielding — stitches are used which include all coats and are knotted in the lumen. This will, of course, apply to the operations of pyloroplasty, pylorectomy and gastro-duodenostomy.

Then, to the question—is it possible to introduce a reliable intestinal suture without communicating with the lumen?—the answer must be in the negative, as far as the duodenum is concerned. In the remainder of the intestinal tract there is no objection to the stitch including but a portion of the submucosa, if that be feasible.

Halsted, in his remarks on the importance of the submucous layer, also dwelt upon the fact that for years eminent men had described the Lembert stitch as including but the peritoneal coat. This, he concluded, was impossible, owing to its extreme thinness. The extreme thinness of the submucosa, which is but ten times as thick as the peritoneum (Edmund and Ballance), in turn leads us to doubt the practicability of including but a portion of this coat in a stitch.

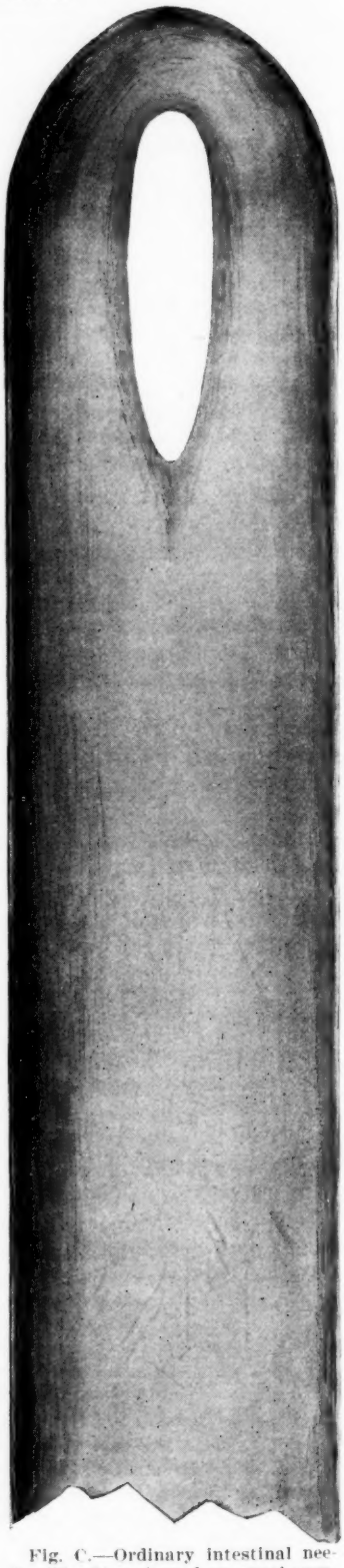


Fig. C.—Ordinary intestinal needle (No. 8), enlarged an equal number of times as is the intestine in Fig. B.

In Dr. Halsted's original article is found a detailed description of the technic employed, which enables one to insert the needle in such a manner that the submucosa is "penetrated, but not perforated."

To elucidate this feat is presented a schematic draw-

ing of the intestinal wall, showing the relative thickness of the various layers, with the needle in the act of picking up a part of the submucosa without going through it. The intestinal wall in this drawing is magnified about 32 times, but the artist neglected to magnify the needle. It thus conveys to the observer an erroneous conception as to the relative proportion between the ordinary intestinal needle and the submucosa.

Figure B is a reproduction of the illustration in Dr. Halsted's article. Figure C represents a No. 8 round sewing needle magnified in diameter an equal number of times as is the intestinal wall of Halsted, and which, if represented at full length, would extend 48 inches, and at its greatest width would be four-fifths of an inch. A comparison of these drawings will give an idea of the difficulty one may anticipate in endeavoring to pick up with a needle that is one-fortieth of an inch in diameter but a part of the submucosa, which, according to Edmunds and Ballance, is 1-250 of an inch thick. There is a proportion of 6 to 1 in favor of the needle.

Finally, in answer to the question as to the possibility of introducing a proper intestinal suture without entering into the lumen, we say that in locations other than the duodenum it may be possible for the most expert, but for the average surgeon such an attempt seems impracticable. Therefore, realizing the importance of the submucous coat, the difficulty of splitting its fibers, and the danger of yielding, on the one hand, if it is not included, and that of capillarity, on the other, if it is perforated, we choose between evils. We decide to run the greatly reduced risk of capillarity, in order to positively exclude yielding with its 25 per cent. mortality, by recommending a suture which includes all coats and is tied on the mucosa. One which can be placed with certainty, and one in which the submucosa is secured in every stitch.

The historical progression of the intestinal suture, with reference to the structures included within the stitch, shows also five stages concomitant with the involution of the knot. They are as follows:

1, the suture including all coats, the knot on the serosa; 2, the suture including peritoneum only; 3, the suture including peritoneum and muscularis; 4, the suture including peritoneum, muscularis and submucosa, and, 5, the suture including all coats; knot in the lumen.

ADVANTAGES.

The chief advantages to be derived by penetrating all coats of the intestinal wall and placing the knots within the lumen are: 1. Less danger of peritonitis, through leakage at stitch hole. 2. No yielding of stitch. And among the other commendable points may also be mentioned: 3. Adhesions diminished. 4. Small diaphragm. 5. Less danger of gangrene. 6. No foreign body; suture material will all pass away. 7. Time decreased.

Leakage.—Clumski, in a recent contribution on the subject of intestinal union, states that in all cases of union by suture alone in which leakage occurred, the seat of the leakage was at the site of the knot.

Yielding.—If the submucous coat is not included in the stitch, yielding is liable to take place. In an effort to avoid penetrating into the lumen, when introducing the ordinary Lembert stitch, one is apt to be overcautious and so fail to include any portion of this layer. That yielding of stitches, from this or other causes, is one of the most frequent factors in failure of enterorrhaphy can be seen from the statistics of Rosenthal, who, in 1892, collected 151 cases of intestinal resection followed by end-to-end union, with a mortality of 42.3 per cent., and 50 per cent. of this rate due to peritonitis. He is reported in the translation by Harris as follows: "The frequency of peritonitis was owing to the escape of feces into the peritoneal cavity, due to the inefficiency of the suture or to fecal accumulation. That perforation peritonitis claimed the most victims is a striking proof of the inefficiency of the present methods of intestinal suture." With a single row of stitches which include all coats instead of two or more rows, each including but a portion of the intestinal wall, the danger of yielding, because of not including the submucosa, is positively excluded.

Adhesions.—Concerning adhesion following an intestinal suture, Halsted says: "The success of any form of intestinal suture is inversely proportionate to the extent of the adhesions which result from the employment of the particular method." The most active cause of these post-operative adhesions are the bulky knots and ends, which irritate the adjacent organs or tissue coming in contact with the site of the union. Such adhesions are quite common when the ordinary suture is used, less so if the mattress suture is employed for the knot is not so prominent as it is when located on the top of the joint, as in the ordinary stitch, and still less common after the use of the Murphy button, Frank coupler, or methods of union in which the knots are in the lumen. It has been said that these adhesions tend to strengthen the joint if they do not form bands, underneath which a loop of intestine could become strangulated. Even if no such grave result follows their formation they may act as a cause of vague, indefinite or perhaps marked uncomfortableness, tenderness or pain, which may do considerable toward producing a condition of chronic invalidism.

Diaphragm.—Diaphragm formation is an absolutely unavoidable result following any method of union which adheres to the Lembert principle, i. e., sero-serous apposition. But the size of this diaphragm may range from one so small as to be practically insignificant, to one of sufficient size to occlude the bowel lumen and cause obstruction. The variation depends entirely upon the methods of union employed and the care with which the technic is carried out. In methods requiring two or three rows of sutures the lumen of the tube will of necessity be encroached upon to a greater extent than it will be by a method in which but one row of stitches is employed. In examining specimens after performing the Maunsell method a marked projecting ridge is to be seen on the mucous surface, at the site of the longitudinal incision, which is closed with Lembert stitches, while at the site of the circular suture it is located with much more difficulty. That this diaphragm is practically the only form of post-operative stricture, and that stricture due to cicatricial contraction rarely, if ever, occurs, has been well brought out by W. A. Evans. That a broad serous approximation is unnecessary has been emphasized by J. B. Murphy in his statment that, "A line of approximation is as good as half an inch."

Less Danger of Gangrene.—The single row of stitches instead of multiple layers is advantageous in that there is no danger of interfering with the blood supply of the inverted cut ends. This fact is emphasized by Maunsell when he says, "A double line of sutures should never be applied in intestinal surgery. It obstructs the circulation too much, interfering with firm plastic peritonitis, and in some cases causing gangrene of the

inverted portion of the gut." And similarly by Senn as follows: "That the second row of sutures in the Czerny-Lembert has often been the cause of gangrene of the inverted margin of the bowel would not be difficult to prove by many postmortem records."

No Foreign Body.—A stitch which penetrates all coats and is knotted on the mucosa will early and invariably pass away. The ordinary intestinal suture including but a portion of the wall and knotted externally, will become encysted and remain as a foreign body or will migrate directly through the intestinal wall into the lumen and pass off with the feces. If it remains encysted, it may give rise to symptoms more or less objectionable, if not dangerous. In this connection Bishop says: "If it is convenient, if not necessary for a stitch to pass away after its mission is completed, it is better that it penetrate all coats of bowel than if it penetrate only peritoneum." Cases are on record in which, at the autopsy six or twelve months after the operation, there has been found the suture, still partially attached to the wall, so liable, especially if continuous, to cause obstruction at any time. In the writer's animal experimentation, the suture had always disappeared in all specimens which were removed after the fourth week. In one instance, on removal of a twenty-one days' specimen when flushing out the canal, the continuous suture, entirely free, came away with the débris.

Time Decreased.—In post-graduate work Dr. E. Reavely, Silverton, Colo., has performed an experimental enterorrhaphy in nine minutes. This time including the opening and closing of the abdomen.

At a meeting of the Chicago Medical Society, December, 1900, at which the first case of enterorrhaphy all knots in the lumen was reported by Dr. F. H. Martin, and 4 others mentioned by Dr. E. W. Andrews, it was suggested in discussion "that we be extremely cautious in reaching conclusions on such a small experience." Since that time the number of cases where such method has been employed has increased to 19. This may be a small number upon which to draw conclusions, but the results are very encouraging, and it is thought that the method is worthy of consideration.

In the 19 cases on the human being there were 4 deaths, due to the following causes:

In No. 4, pylorectomy for carcinoma, death occurred on the day following the operation, from shock. In No. 9, pylorectomy, with removal of the head of the pancreas, and a portion of the liver, the patient died eight days after the operation. An autopsy in the presence of Drs. Ferguson, Ries and Morgan revealed the line of suturing to be intact. In No. 11, circular enterorrhaphy for strangulated hernia, death followed immediately after the operation, as the result of shock. And in No. 19, pylorectomy, for carcinoma, death occurred from shock within twelve hours after the operation. So it may be said that in none of these four cases can the death be attributed to either the method of suturing employed or the manner of applying it.

Animal experimentation in the original work on this method resulted in 100 per cent. of recoveries. It is recorded that experimental work in this method by student practitioners at the Post-Graduate School of Chicago yielded but 3 per cent. of deaths. The inexperience of these men in intestinal surgery should be remembered when considering this mortality rate.

No.	Operator.	Indications.	Operation.	Suture.	Material.	Result.	Remarks.
1	F. H. Martin	Fecal fistula	Circular enterorrhaphy.	Continuous	Silk	Recovery	JOURNAL A. M. A., Nov. 3, 1900.
2	E. W. Andrews	Benign stricture of pylorus.	Pyloroplasty	" "	"	"	
3	" "	Fecal fistula	Circular enterorraphy.	" "	"	"	
4	" "	Carcinoma of pylorus	Pylorectomy	" "	"	Death	Shock same day.
5	Emil Ries	Rent in rectum, 4-5 of circumference.	Longitudinal enterorrhaphy.	" "	Catgut	Recovery	
6	W. E. Schroeder	Gunshot wound	Longitudinal enterorrhaphy.	" "	Silk	"	Eleven perforations: Czerny-Lembert and Murphy button also used.
7	A. H. Ferguson	Carcinoma of colon	Circular enterorrhaphy.	Interrupted	"	"	
8	F. G. Connell	Fecal fistula	Circular enterorrhaphy.	Continuous	"	"	D. A. K. Steele's case.
9	A. H. Ferguson	Carcinoma; pylorus, pancreas and liver.	Pylorectomy	Interrupted	"	Death	Eighth day; in the afternoon field of operation was perfect.
10	" "	Carcinoma of pylorus	"	" "	"	Recovery	Smoked pipe on second day.
11	E. W. Andrews	Strangulated hernia	Circular enterorrhaphy.	Continuous	"	Death	Patient in extremis; died one-half hour after leaving table.
12	A. H. Ferguson	Fistula bimucosa and adhesions to pelvic viscera.	Circular enterorrhaphy.	Interrupted	"	Recovery	
13	E. W. Andrews	Benign stricture of pylorus.	Pyloroplasty	Continuous	"	"	
14	W. E. Schroeder	Biliary fistula	Longitudinal enterorrhaphy.	" "	Catgut	"	
15	H. O. Walker	Chronic invagination of ileum.	Circular enterorrhaphy.	" "	Silk	"	
16	A. E. Halsted	Benign stricture of pylorus.	Pyloroplasty	" "	"	"	
17	F. G. Connell	Fecal fistula	Longitudinal enterorrhaphy.	" "	"	"	Denslow Lewis' case. Tubercular peritonitis and and fistula for one year.
18	W. E. Schroeder	Gunshot wound	Circular enterorrhaphy.	" "	"	"	
19	A. H. Ferguson	Carcinoma of pylorus.	Pylorectomy	Interrupted	"	Death	Shock; twelve hours.

Since this report was presented, this suture has been employed in ten additional cases.

The Maunsell method is imperfect in that all knots are not within the lumen. The secondary longitudinal incision is closed with Lembert stitches, and the invagination of the cut ends is many times difficult, dangerous and time consuming. This method is also objectionable in that a circular-loop stitch is employed, which allows a considerable part of the suture material to remain on the peritoneal side of the bowel, and it may not hold the free cut ends in as proper position as will the square-loop stitch.

In order to do away with these disadvantages of the Maunsell method the suture here presented, with all knots on the mucosa, was devised by the author in October, 1898. The technic is described with the aid of the drawings here presented. (Interrupted suture.)

Figure 1 represents the first or mesenteric stitch in place. It is at this mesenteric portion of the bowel that the greatest difficulty is experienced when making an enterorrhaphy by any method. This is owing to the presence of the mesentery, the blood vessels, and, what is of greatest importance, the V-shaped space left by the separation of the two layers of the peritoneum.

This anatomic formation leaves a longitudinal strip of bowel devoid of serosa, over which the peritoneum must be drawn, before a perfect sero-serous union can be secured. This particular manner of passing the mesenteric stitch can be recommended in any enterorrhaphy regardless of the method which may be chosen to close the remainder of the circumference.

To take this stitch the needle is made to enter, from the lumen, the bowel wall of one cut end, perforate all

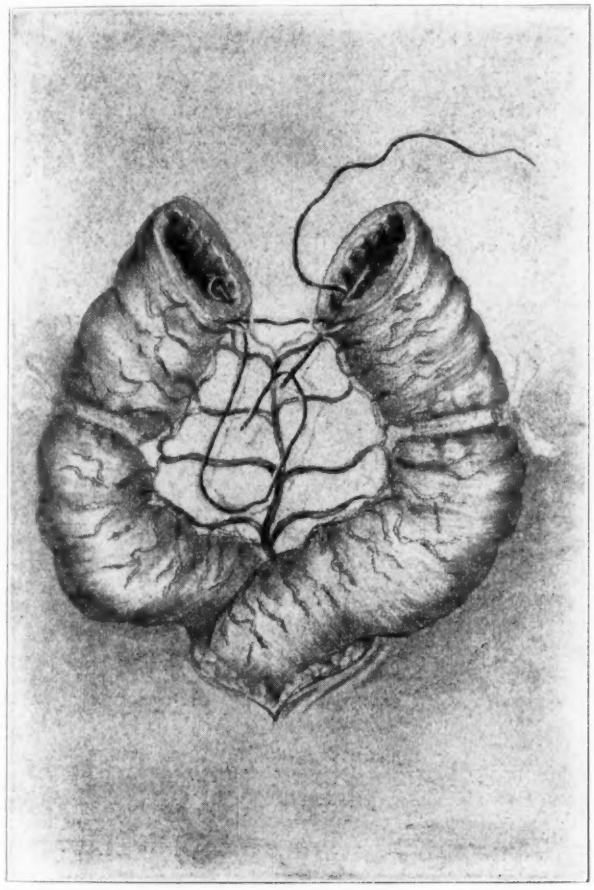


Fig. 1.—Mesenteric stitch.

coats, and pass through the serosa of one side of the triangular space. Then over to and into the serosa of the opposite cut end, at the same relative point—side of the triangular space—then through the wall into the lumen. This completes one-half of the stitch, and is made with one move of the needle. The needle is then reversed, and, at a distance of about one-eighth of an inch, is made to enter the mucosa of the second cut end, pass through all coats of the bowel wall, including the serosa of the triangular space, and then through the serosa of the opposite triangular space of the first cut end, on through the wall into its lumen, where the needle end and the free end of the stitch are tied on the mucosa. This stitch absolutely secures a perfect approximation at this point.

Figure 2 shows the mesenteric stitch as tied. The ends are not cut off at this point, for they can be utilized as a suspending loop, or guy-threads (No. 1). At a point about one-third of the circumference to the right of the mesenteric attachment a similar stitch is inserted, the ends of which are left long to form a suspending loop or guy-threads (No. 2). This stitch is exactly similar in its placing to the first stitch inserted. The needle begins on the mucosa, goes through mucosa and serosa of the first cut end, then enters the serosa of the second cut end and passes through all coats, then returns at a distance of about one-eighth of an inch, passes through the mucosa and serosa of the second cut end, and on through the serosa and mucosa of the first cut end into the lumen, where the knot is then tied on the mucosa.

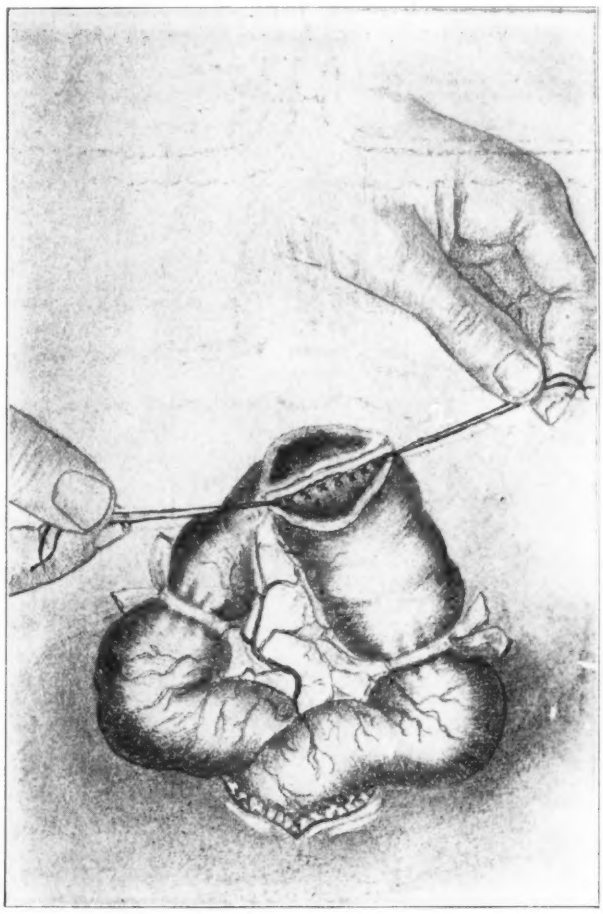


Fig. 2.—First third sutured. End stitches used as guy threads No. 1 and No. 2.

Guy-threads 1 and 2 are held taut, and the coapted walls are secured by the necessary number of stitches, inserted as the one above described. These loops, or guy-threads, consume no time, as after the ends are cut all that remains is a stitch in its proper place. They hold the intervening portion of the bowel circumference in the proper position, that of sero-serous apposition, so that, in making what we term the square stitch, with one movement of the needle, the mucosa and serosa of one side, with the serosa and mucosa of the opposite side are included. A second movement of the needle includes the same coats in an opposite direction, and completes the stitch to the point of knotting on the mucosa.

Instead of the one-third division of the circumference of the bowel it may be divided into halves. But by dividing it into thirds a full two-thirds can be united by this

easy to-and-fro movement of the needle, while the apposing cut ends are held in coaptation.

There is, then, but one-third to be closed by the final stitches. These are few in number, but they require more movements, and are, therefore, more difficult and time consuming.

If the circumference be divided into halves only one-half will be united while the parts are in the favorable position. Instead of guys of any description the holder of Dr. E. H. Lee may be used. This is a very efficient aid and can be highly recommended.

This rectangular method of suturing, or the square stitch, is to be preferred to the circular. In using a simple circular stitch, as did Maunsell, there is danger of a

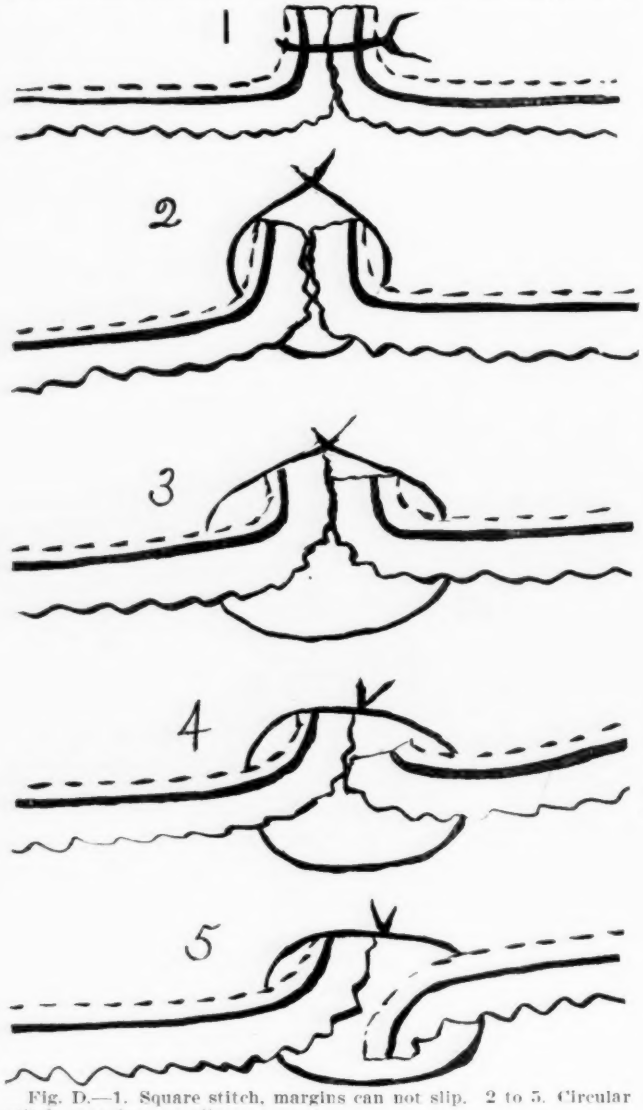


Fig. D.—1. Square stitch, margins can not slip. 2 to 5. Circular stitch, margins can slip.

resulting infection of the peritoneum, because the margins of the gut wall included in the bite of the stitch are liable to slip and lead to fistula, if nothing worse. Or, infection may travel along the suture material to the free cavity, for the external portion of the stitch is not so completely buried between the apposed surfaces as in the square stitch.

The possibility of the cut edges slipping by one another when included in the circular-loop stitch is shown in the accompanying cut (Fig. D).

In Figure D, 2 represents the ordinary circular or Maunsell stitch, including within its grasp the inverted margins of the cut ends; 3 shows the relative position which the suture and bowel ends may assume, owing to pressure or distension; 4 illustrates the condition which may follow if more force be applied to one cut end than to the other; and then if, with a slight aggravation of the cause, the pressure increases, one cut edge slips by the opposite cut edge, and a sero-mucous apposition results, as shown in 5, a sinus connecting the lumen of the bowel and the peritoneal cavity, with a fecal fistula as a very favorable outcome. 1 illustrates that, with the square stitch, such an occurrence can not take place.

Guy-thread No. 2 has been removed; that is, the ends which were left long after tying the stitch at that point have been cut away. And at a point one-third of the circumference to the left of the mesentery a stitch is inserted, tied and the ends left long, as guy-thread

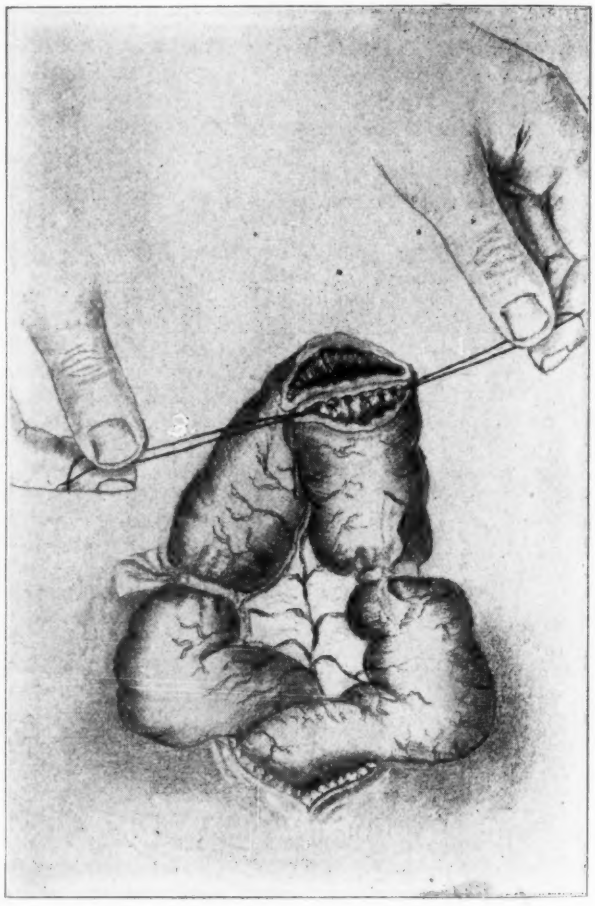


Fig 3.—Second third sutured. Guy threads No. 1 and No. 3.

No. 3. This brings into the proper position for suturing the second one-third of the bowel circumference.

The guy-threads 1 and 3 are now held taut, and the intervening space sutured, as was the first one-third.

The guy-threads 1 and 3 have been cut away, and the intestine will assume its normal position. It will be observed that at this stage a transverse section of the bowel has been transformed into a wound extending but one-third of the circumference, at the convex border.

The most difficult two-thirds of the enterorrhaphy, the mesenteric, has been completed. The remaining convex third must be closed by sutures exactly similar to those used in the first two-thirds. That is, the needle passing through opposite walls in the following order: Mucosa, muscularis and serosa; serosa, muscularis and mucosa, and this same order repeated in the opposite

direction, one-eighth of an inch away. This brings the knot at one side of the union, in the lumen.

Owing to the impossibility of bringing the intestinal walls of this last one-third in the same relative position, that of sero-serous apposition, before the introduction of the stitches, it is necessary to proceed somewhat differently in order to arrive at the same result.

The needle enters the gut wall from the lumen, passes through all coats and emerges from the serosa of one side. It then crosses over to the opposite wound margin and enters the gut wall from the outside; passes through the serosa, the muscularis, then the mucosa and into the lumen. The needle is then turned upon itself and made to retrace its steps at about one-eighth of an inch distant. It passes from the lumen through all coats, emerging on serosa, then over to the opposite

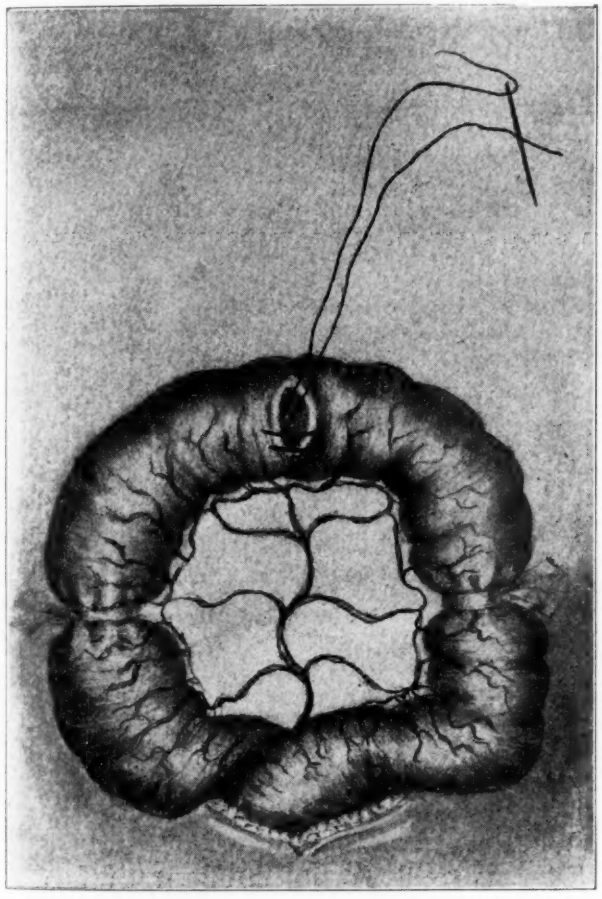


Fig. 4.—Two-thirds completed. First stitch in last third.

side, entering through the serosa, muscularis and the mucosa, into the lumen.

Now after drawing this stitch tense and tying it on the mucosa we have, as a result, the same sero-serous apposition as was effected in the first two-thirds. This step is repeated till the last stitch is to be tied.

On account of the small unsutured space remaining it is impossible to tie this last knot on the mucosa in the ordinary way. This last stitch is inserted in the same manner as were the others in this last third, but its two ends emerge from the mucosa, and out of the lumen through the still unclosed portion of the wound, side by side, ready for tying.

At a point in the line of union about opposite this last stitch a threaded needle is inserted, eye-end first, between two of the previously inserted stitches. The needle eye is passed between the apposed serous surfaces into the lumen, and then out again at the place where the last stitch ends still protrude. At this point we find the two threads which, when tied, will form the last knot. The threaded needle is slightly withdrawn and so forms a loop with its thread. Into this loop are placed the ends of the last stitch. Then, by withdrawing the needle, and in its loop the stitch ends, they will present on the peritoneal coat of the opposite side, at the point where the needle was previously inserted.

Slight traction upon these ends will cause the remaining portion of the line of union to become inverted, and sero-serous approximation will obtain entirely around the bowel. On further traction the bowel will become flattened, bringing the mucous membrane, upon which the last knot is to be located, in

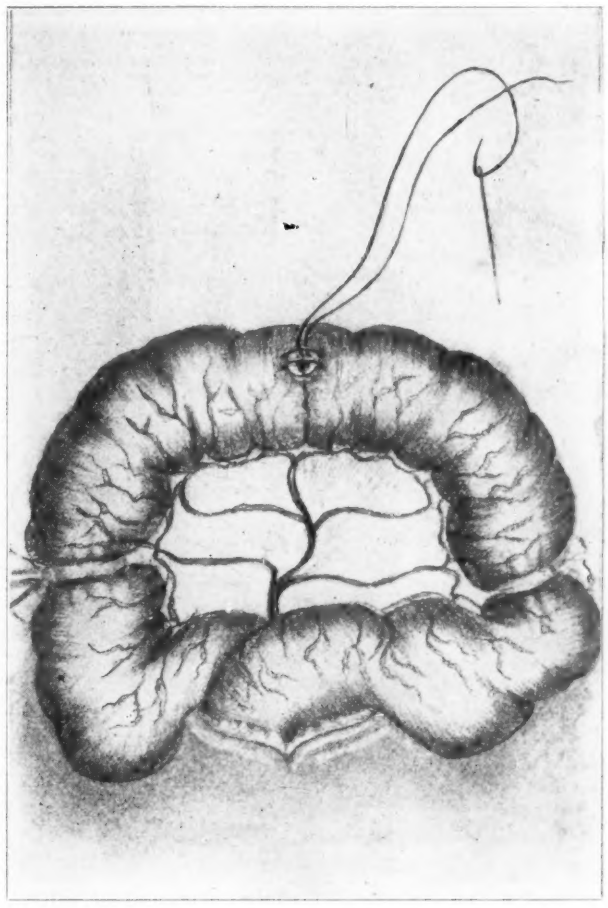


Fig. 5.—Last stitch in last third.

intimate relationship with the line of suture, at the point where the free ends protrude.

The knot is then tied while the bowel wall is in this position, thus not allowing of any slack. While still retaining the tension and the flattened position the ends of the stitch are cut off short, so preventing the dangling of long free ends in the lumen.

Now, upon allowing the bowel to resume its natural contour, that of a cylinder, the knot will slip, between the already tied stitches, into the lumen. And, as it is fastened to the mucosa of the opposite pole of the diameter, it goes with that portion of the bowel wall.

By this procedure the enterorrhaphy is completed, with all knots on the mucosa. The bowel is then washed with hot normal salt solution and replaced in the abdomen.

The drawings here presented demonstrate the use of the interrupted stitch. This was done, because, in all previous descriptions[4] of this method, the continuous suture was illustrated with a view to the time-saving feature. And also, to demonstrate that either the continuous or interrupted suture may be as satisfactorily employed.

This method may be applied equally well in circular enterrorrhaphy, lateral anastomosis, pylorectomy, pyloroplasty, gastro-enterostomy, and in incised wounds. In fact, under any condition where the ordinary suture may be employed.

CONCLUSIONS.

1. Yielding and leakage are the most frequent causes of failure in enterorrhaphy.

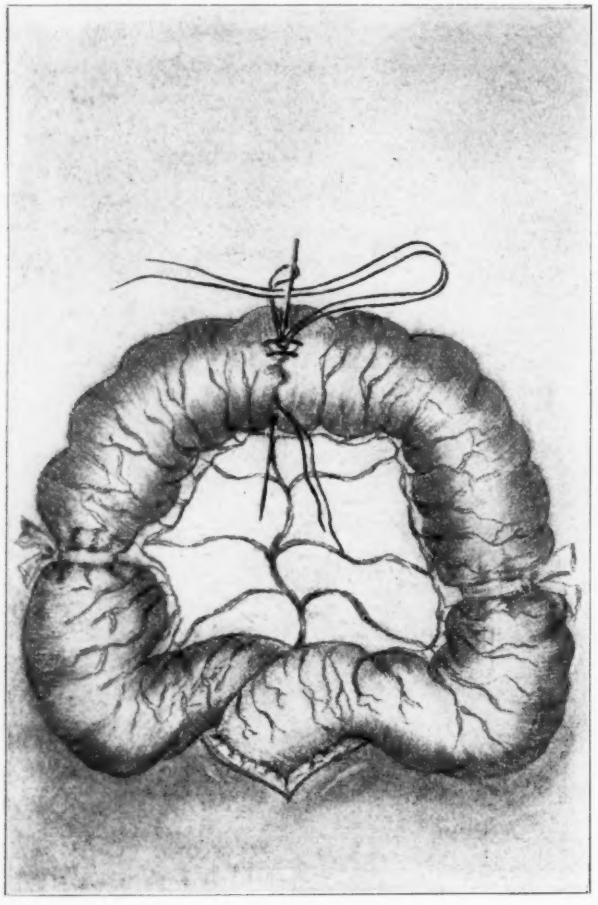


Fig. 6.—Ends of last stitch in loop of threaded needle. Previous to withdrawal.

2. To include all coats of the bowel wall, removes the danger of stitch-yielding.

3. To place the knot within the lumen, diminishes the danger of capillarity.

4. The square-loop stitch is more reliable than the circular-loop stitch of Maunsell.

5. The relative thickness of the needle, and the submucosa, surrounds the procedure of "penetration without perforation" with great uncertainty.

6. To fail to include the submucosa, leaves a weak stitch.

7. To perforate the submucosa is practically to open into the lumen.

8. To penetrate into the submucosa of the duodenum, is practically to perforate the submucosa.

9. It is not only possible, but practical and advantageous, to place all the knots of an enterorrhaphy within the lumen.

10. The ideal location for the knot is outside of the peritoneal cavity.

290 La Salle Avenue.

4. Connell: Phila. Med. Monthly, January, 1899. F. H. Martin: JOURNAL A. M. A., Nov. 3, 1900. E. H. Lee: Annals of Surgery, January, 1901. Connell: Medicine, April, 1901.

DISCUSSION ON PAPERS OF DRS. DEAVER, LAPLACE AND CONNELL.

DR. D. A. K. STEELE, Chicago—I am glad that there is one hospital in this country where autopsies can be held after each death, even where there are occasional legal complications attending them, because that is the only way in which scientific surgery can make positive advances. All of us have cases of appendicitis that die, and die unexpectedly sometimes, in which it was impossible to obtain the consent of friends to permit

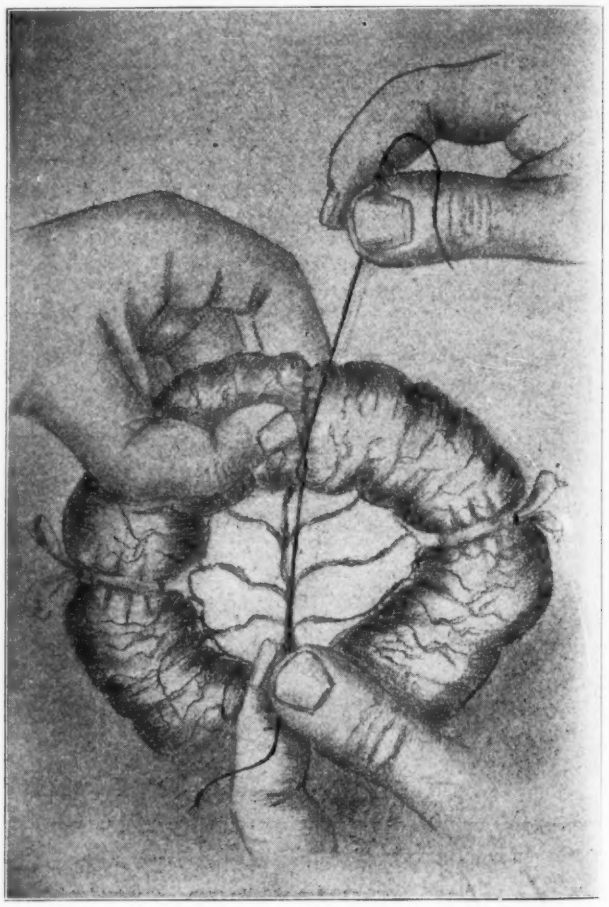


Fig. 7.—Ends of last stitch presenting at opposite side being tied.

an autopsy, and it places us in the humiliating position of saying, "I do not know why that man died." Dr. Deaver can tell us in all of his cases the "why." I had in my own experience a child of 3 years who was brought to my clinic for the purpose of having an appendectomy done, in the late development of an appendicitis—at the expiration of perhaps a couple of weeks from the time of the pain and tenderness and tumefaction occurred in the region of the appendix, or possibly a little higher, and in which, upon eliciting the history of that child, I learned that the patient had, three months previously, in playing, placed a shawl pin in the mouth and it disappeared. Nothing was heard from it until two weeks before coming into the clinic; pain was located in the appendix, and when the child was brought to me there were the ordinary symptoms of tumefaction, tenderness, temperature and everything to indicate an acute infective appendicitis; but back of this was the history of the disappearance of the shawl pin. Nothing was

discovered and there was doubt as to whether it was in the intestinal tract. The child was so young that the statement had to be taken with some allowance. This was simply opening an abscess, cutting down, slashing into it, putting my finger down and finding the point of the pin projecting into the inflammatory mass. It was a case of perforation of the intestine from the inner side, the pin projecting and an exudate around it. The disappearance of the shawl pin was marked by the disappearance of all the symptoms. I have had no personal experience with continuous irrigation in cases of septic peritonitis. Dr. LaPlace's method is a good one. When we get such good results from normal salt solution in septic joints, why should not the same idea be extended to the abdomen? If we keep continuous salt solution running through, this is the better procedure than leaving the salt solution in and flushing in an upward direction to secure the disappearance of the microbic organisms through the diaphragm. In regard to the paper by Dr. Connell, it is a masterpiece, the reasons he gives for his method of suture, placing knots in the lumen of the intestine where they are harmless, and the correct approximation. The advantage of this method I have had an opportunity of studying in one of my own cases.

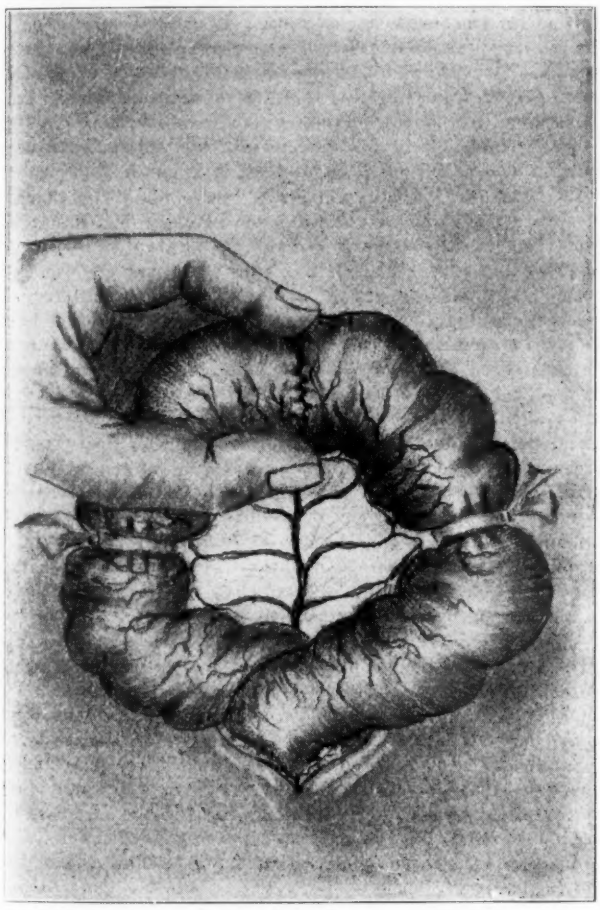
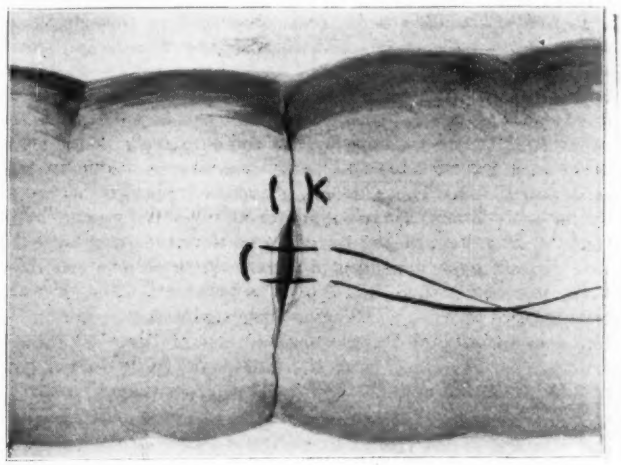


Fig. 8.—Last knot has slipped within the lumen. Enterorrhaphy is complete. All knots on the mucosa.

Dr. J. B. Murphy, Chicago—I was very much interested in the paper of Dr. Deaver, and as Dr. Deaver had to omit some parts of his paper, I will ask him some questions concerning the pathologic conditions, not mentioned therein, on which I fear we are not a unit. I wish not only to concur with Dr. Deaver in this particular paper, but also in many which he has read before on this subject. I think the members of the profession owe Dr. Deaver a debt of gratitude that I fear they will never be able to pay, for the work he has done in this line. In the strong stand which he has taken from the beginning as to the relation of the pathologic conditions, with the procedure necessary for their relief and the time in which that procedure should be instituted, Dr. Deaver has been the great leader. Regarding pathologic conditions, I wish to ask Dr. Deaver just what he means by "suppurative peritonitis."



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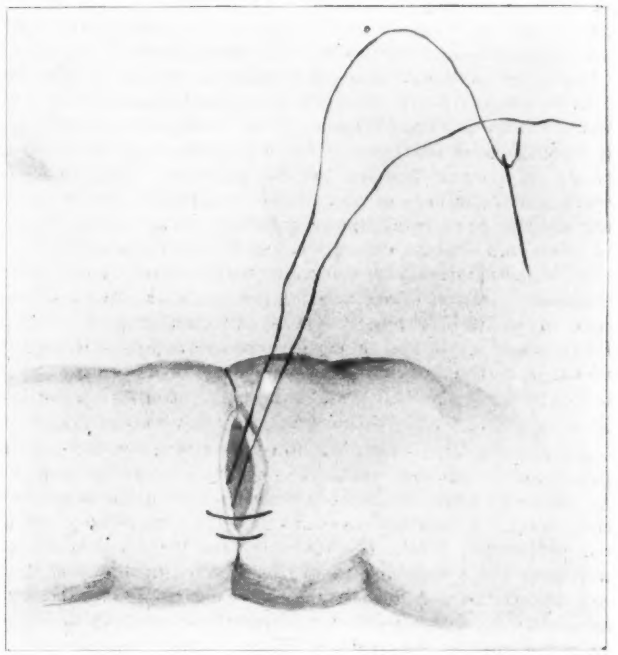

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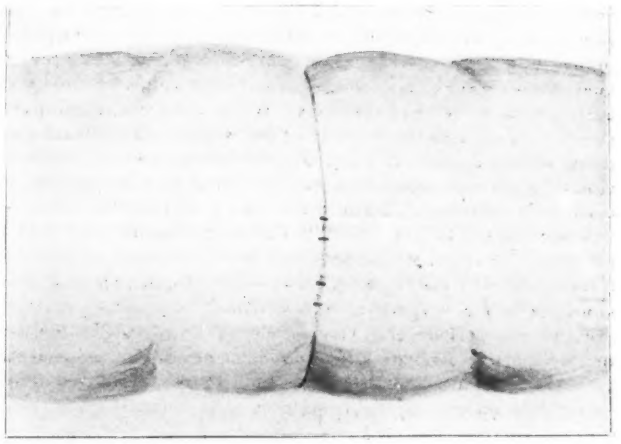

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Fig. E.—1. Quilt stitch knot on serosa. 2 and 3. Square stitch knot in lumen.

I am sure that many of the members of this Section who are present do not understand exactly what he means by suppurative peritonitis. I am sure Dr. Deaver does not mean the condition where there is a cream-colored fluid in the peritoneal cavity, with a peritoneum that still retains its luster, for if he did, many men could say, "I have seen many cases of suppurative peritonitis recover." I feel that Dr. Deaver means by an inflammation of the peritoneum that the infection is of the type that invades the serosa. If that is what he means by peritonitis, then I hope we are comparatively a unit; that operations for that type of peritonitis are particularly fatal is known to all. The presence of pus in large or small quantities, with the peritoneum still retaining its gloss, though red and congested, means in this type that the peritoneal surface is not open for absorption of the products any more than an erythematous skin is open to infection. The skin may be congested and the peritoneum congested and still the epithelial and endothelial shingles be intact. If these endothelial cells are intact, I feel that the patient is going to get well, regardless of the quantity of pus in the peritoneal cavity.

There are some other questions that have come to my mind, and I intend to ask the opinion of Dr. Deaver on them, because I am not just satisfied as to what rôle they play. The first is the element of tension in an invaded area. We recognize in general surgery that infection is greatly lessened, the tension is relieved, that is, there is a subsidence of the manifestations of intoxication. Do we relieve all tension by opening the peritoneal cavity and allowing the pus to flow out? Yes, unless the pus is retained in circumscribed pockets. Infection under pressure produces rapid destruction of all tissue by the increased advantage of the biotic and toxic action of the sepsis on tissues depleted by the pressure. The immediate opening and drainage of pus from the peritoneal cavity lessens the liability of destruction of the endothelial cells—the shingles of protection against absorption. Is the drainage always sufficient without irrigation? For my practice I would say, "Yes." The next question is the type of the infection. Do we recognize in peritonitis certain types of infection? Yes. Many times when we open the peritoneal cavity for peritonitis—I mean from the appendix—whether infection occurs through the opening of the wall or through perforation is a matter of indifference if we have the virulent type of infection.

A final question: Is it possible to make a diagnosis of the pathologic conditions within the peritoneal cavity from the symptoms? That is the most vital question from a practical standpoint. I take the stand for myself; I take the stand for our profession; I take the stand for the people, that we can tell from the symptoms neither the extent of the pathologic changes within nor the tendency of these changes. When we assume to do this we put ourselves in the position of judges from the outside, as to whether the pathologic conditions in the peritoneal cavity are going favorably or unfavorably. The greater my experience with acute peritonitis and acute appendicitis, the more certain I am that I am unable to diagnosticate the type and degree from the symptoms and physical signs; the more certain I am that I can not say from the course of appendicitis in the first twenty-four or thirty-six hours, that it will not terminate in that virulent, fulminating appendicitis which every surgeon and practitioner dreads; the more certain I am that I can not say whether it is a staphylococcus, a streptococcus or a virulent type of the bacillus coli communis infection. Many years ago I believed that it was possible for me to say, "This is one type of infection; that is another," but now, with something like 1600 cases of appendicitis operated, I am convinced that it is impossible to say what the type is and what the termination.

When the peritoneal cavity is opened I believe that we can approximately tell from the appearance of the surfaces within, whether the patient will recover. If it is blistered and excoriated to an extensive degree, even with a small quantity of pus, the chances are that the patient will die, drainage or no drainage. While if the peritoneal gloss be retained, no matter what quantity of pus be present, the chances are that the patient will recover with simple drainage. Finally, I feel more strongly the position I took ten or twelve years ago, that all cases of appendicitis are dangerous to life, that in 98 per cent. of cases the infective material is confined within the appendix during the first twenty-four hours, that operative procedures instituted within that time give a mortality of less than 1 per cent., that the percentage of danger from the disease is enormously greater if interference be postponed beyond that period of time, and since my sacred and solemn duty to my patients compels me to treat them by the means which least jeopardizes their lives, therefore—that an operation should be performed within twenty-four hours after the first onset of the symptoms.

Dr. LaPlace's forceps are a matter of no small moment in the technic of enterorraphy. It exactly regulates the degree of inversion of the cutaneous edges of the bowel and gives a firm uniform surface, upon which the suture may be applied. It enables the surgeon to approximate lumens of varying size with an even division of spaces. It can be used for lateral as well as for end-to-end anastomoses. It enables one to control the relative position of the two mesenteric attachments, that is, they are not allowed to come directly opposite each other. When the work is completed the forceps are easily removed and the final stitch placed. Further, it gives assurance that too much of the bowel is not inverted and stenosis will not occur as a sequence of the suture.

Dr. Connell's able presentation of his very ingenious method of suture must attract the attention of every abdominal surgeon. It has in it so many elements that appeal to the thinker on intestinal approximation, and I have found in the use of the suture that his theoretical advantages are sustained in its technical application, as well as the security afforded by it. It gives an exact approximation of the serosa over the entire circumference of the bowel and particularly at the weakest point of all other methods of intestinal approximation, namely, the mesenteric attachment. When the suture is properly applied, and it should never be otherwise, the peritoneal coverings are brought into close contact so as to lessen the liability of leakage at the mesenteric attachment. The suture material is nowhere exposed on the peritoneal side and neither is the final knot. It does not require an additional opening in the bowel as does the Maunsell stitch. The degree of eversion of the edges can be controlled better than with any other, which is an important matter in this work.

The liability of leakage around this suture is very small on account of the manner in which the approximation is produced. The technic of its application is not difficult and I might add that there is no suture of the intestine that can be made without a careful consideration of this method. If suture is to be used at all, I believe that the Connell suture has advantages over any other with which I am conversant. It can be applied to the lateral as well as the end-to-end or the end-to-side. Dr. Connell deserves the sincere thanks of the profession for giving them this accurate method of intestinal approximation.

DR. E. J. MCKNIGHT, Hartford, Conn.—Following in the line of the last speaker, I am a little surprised that nothing has been said about the blood count in cases of appendicitis. In many cases we have in this very positive knowledge. A child 6 years old was taken with vomiting and pain in the abdomen. The case was not considered serious, and when I saw it one week later, at 1 p. m., the vomiting had ceased, the pain had disappeared and there had been several operations of the bowels from salines. The abdomen was distended to some extent, muscles not rigid. There was a case in which I was entirely at sea and relied upon the blood count. There was found to be a leucocytosis of 38,000. I am positive that the methods were accurate. We determined on operating, and the operation was performed at 5 p. m. On opening the abdomen foul-smelling pus flowed out and the appendix was found to be ruptured and gangrenous; the lower portion of the abdomen was bathed in pus and intestines were congested and red and covered with patches of exudate. The appendix was removed and the abdomen thoroughly flushed, being thoroughly washed out with salt solution, every point of the abdominal cavity

being reached with a glass tube connected with an irrigator. The very slight adhesions that were forming were broken up gently and every part of the abdominal cavity was flushed. There had been a recent case of similar nature, in which a small portion at the back of the meso-colon was not reached for some unaccountable reason. This resulted in abscess, and led me to be more thorough in washing. I saw the patient two days after operation and supposed he would die. I received this morning a telegram from my assistant who said that to all appearances the boy was out of danger. Of course, it is too early to say that positively, but in spite of what has been said about not washing out the abdomen, I feel that the thorough flushing of that abdomen, the positive knowledge I possess that every portion of that cavity was thoroughly washed out, leads me to believe that the patient will recover. As regards continuous irrigation, I do not see how that will accomplish much, for after a short time the fluid may only reach a circumscribed space, adhesions will form and only a small portion of your abdominal cavity is flushed. I relate this case mainly to call attention to the positive information to be obtained from the blood count. Another case occurred in January, in which a young man had had repeated attacks since November, not severe, but which confined him to the house and made him an invalid. The operation in this case was performed when the parts were congested and the adhesions vascular, but there was no pus. On the second day the temperature rose to 100.5 and the next day to 103. I feared that we had infection. There was nothing to account for this. The blood count showed a leucocytosis of 8400. This was taken morning and night and remained the same; the temperature continued about 103 for three days. I feared an infection, but relied upon the blood count and waited. The temperature subsided and the patient made a complete recovery. It was due to an attack of grip. In that case if we had not had positive knowledge from the blood count, we should have been obliged to open the wound with the expectation of finding pus.

DR. T. J. MAXWELL, Keokuk, Iowa—I wish to give my voice for irrigation in general peritonitis and septic peritonitis. I read a paper before the Iowa State Society, four years ago, and one before the American Medical Association, at Denver, three years ago, recommending that plan by introducing a tube under the stomach, and another tube—a discharge tube—from the pelvis, and irrigated continually until all the tendencies to rise of temperature had ceased. I have one case to relate, which I think was saved by that method. This case I operated upon for tumor; the tumor burst during anesthesia, discharging the contents through the abdomen. After three days the temperature began to rise, vomiting commenced, the pulse rose to 130, all symptoms of septicemia were present and I instituted irrigation of normal salt solution, and repeated it every four or five hours for three or four days. With the first irrigation the temperature came down, within an hour, from 104.5 to nearly normal, and the temperature was not allowed to rise above 100 F. after that. The appetite returned, vomiting ceased, the bowels were moved and the patient recovered. The general, thorough irrigation of the abdomen is indicated.

DR. E. W. ANDREWS, Chicago—The papers of Drs. Deaver, LaPlace and Connell belong to the type of real contributions to surgery and we are very much indebted to them. Now, this question of irrigation. Dr. Murphy has told us that there was the element of the type of the infection. True enough, but there is one other element, which perhaps he might have added, the element of the length of time of the infection. When we are brought to face this question, why not drain or wash out the peritoneal cavity? Let us see the conditions in this one disease of appendicitis, leaving out of the question the disease we heard discussed yesterday. We have a pus focus on one lower side of the abdominal cavity. We drain. A quantity of pus runs out, fetid or quite clear. How do we know what the conditions are when we find free pus in the intestines without a restraining wall? Can any man say that a collection of pus has invaded all parts of the intestine and smeared the surface of every part of the intestines in that patient? Many times around this area of pus is another zone of sero-pus and serum; I have seen that pus first flows as a milky serum, and finally clear serum flows from a wider zone. If that is true—and certainly on the table we have all demonstrated in these cases where there is no wall—what shall we say about the propriety of flushing out the abdominal cavity? Only this, that as sure as this patient recovers it is because there are one hundred square inches of peritoneal surface which have entirely escaped infection, perhaps entirely escaped the contact with fluid. Pus or extravasated matter may lie in contact with the peritoneum a few hours and not cause fatal peritonitis. We see it in gastric ulcers, where we see operations in extravasation cure 80 per cent. of cases in the first operated upon in the first twenty-four hours and 20 per cent. of the cases operated upon later.

What of the possibilities of recovery after leakage into the peritoneum? All cases which recover in so-called septic, generalized peritonitis are cases in which at least a part of the peritoneal cavity has escaped contact and every case in which all surfaces were inflamed dies. What is the bearing of that on the question of flushing out? We fill the peritoneal cavity with water, and by that means disseminate the infection to every remote part of its surface. I say no. I can cite as many cases on the other side as Dr. McKnight has cited here—recovery under simple drainage the moment the pressure is relieved. Out flows the pus and in spite of the demonstrations of Dr. Clark, the current is towards the drain. I have had many more recoveries since I have used the Fowler position; I have used it in four or five cases since the first of January, after operations in which pus was present without adhesions. Under that treatment recoveries have taken place in my practice in a way totally unexpected to me, and in which I have never seen before under any form of treatment.

Dr. Connell's paper has interested me greatly. I see that the paper deals apologetically with the question of perforation of the mucosa. When you scrutinize this question, think of what it means. Does not the world-wide known device, the Murphy button, do the same thing? What do we have there? We have the button in the mucosa, approximating two serous surfaces. Take, for example, what to my mind is the next best suture in enterorraphy—the Maunsell operation. It is a very satisfactory operation, but one in which absolutely the suture passes cleanly through from serosa to mucosa. The Connell suture passes from one side to another, but it does not leave any portion, not even the final knot outside of the peritoneal cavity. Having done both operations a number of times, I have noticed this distinct difference between the Connell final stitch and the Maunsell—with the latter the stitches are distinctly seen after the knots are tied. At every stitch you see a little danger point, the crossing of the silk thread; in the Connell stitch the enfolding of the serosa hides the stitch. Dr. Connell's paper did not describe his operation, and, therefore, to those who are not familiar with it it is exceedingly unsatisfactory. The Connell stitch has this merit, which it has in common with all the best of modern gastric and intestinal work, namely, it is a continuous stitch. I believe the continuous stitch is the secret of success in suture work in the bowels and intestines; more than that, it has precisely the merit of the Murphy button, in that it is practically a clamp. When the Connell suture is put back and forth, through and through, holding these inverted edges together, it is a clamp. Dr. Connell has kindly reported five of my cases. I had his assistance in the first one or two. I had also been taught to do it upon the gloved finger and upon the dog.

DR. M. L. HARRIS, Chicago—I wish to say a few words on the point brought out by Dr. Murphy, namely, are we able to diagnose the condition within the abdomen? I say most emphatically that we are not able to diagnose the condition and that many times it is impossible for us to form any conception of the true condition to be found, either within the appendix or within the peritoneum by our present means and methods of diagnosis. The question of leucocytosis, brought out by Dr. McKnight, is unquestionably one of value, but in the cases where we need it most it fails us and is of little diagnostic importance. In the fulminating cases we find that the system,

for some reason, is so overwhelmed by the intoxication that leucocytosis absolutely fails. There is no increase in the number of leucocytes, in fact, they may even be diminished. Again, in many of the mild cases which are apparently progressing favorably, so favorably that we may be in doubt as to the best course to pursue, there may be no leucocytosis, still we may open the abdomen and find a large appendix distended with pus on the verge of rupturing, or an ulcer which has extended to the peritoneal surface and would unquestionably perforate in a few hours and produce acute infective peritonitis. In these cases leucocytosis fails us; it has not yet taken place, and it is impossible for any one to determine these conditions before the abdomen is opened. As with Dr. Murphy, I have had three such cases recently. Two of the cases were of a mild type, in which perforation was imminent and in which there was scarcely a symptom, except the mild tenderness to indicate that the patient had an appendicitis. Still, perforation would unquestionably have taken place within a few hours and acute infective peritonitis would have been precipitated. It is impossible to determine before opening the abdomen in many of these cases the conditions to be found in the appendix or peritoneum. When one has operated on fifty cases of appendicitis he thinks he knows something about it, when he has operated one hundred cases he doubts, but when he numbers them by several hundreds he knows that he knows little or nothing about the conditions which he will find when he operates. The point then, which we would make is that we can come to no other conclusion except the fact that, as soon as a patient presents symptoms of appendicitis, the safest course is that of immediate operation. We do not question for an instant, nor does any surgeon, that the large proportion of cases of appendicitis would recover from the attack without an operation, but it is those who do not recover that we are trying to save, and those who did not recover without operation if they had come to the surgeon and were operated early, ninety-five out of one hundred would recover.

DR. JAMES E. MOORE, Minneapolis—I differ from my esteemed friends, Drs. Deaver, Murphy and Harris. I agree with Dr. Deaver that when the patients are under his care and in his hospital that they ought to be operated upon just as soon as the diagnosis is made; but I maintain, as a teacher of students and as a practitioner of surgery, who is to-day talking to many general practitioners, that the doctrine that every case with a diagnosis of appendicitis must be operated at once is pernicious and dangerous. If that doctrine is to be taught to our students, laid down as strongly as Dr. Deaver always does lay down everything, he will feel it his imperative duty when he has a patient out in the backwoods to advise operation when he has no skilled surgeon at hand to operate; the consequence will be that country graveyards will be filled with cases of appendicitis that might have recovered had they been let alone. We are all extremists in some things. Dr. Deaver claims to be one, and I understand he prides himself on being an extremist in this matter; but if you will stop to think, you will agree with me that we do not look for the best of anything from extremists. We must have these extremists. They are useful to point out to us that happy middle ground that is always the safest. We can not lay down hard and fast rules of anything in surgery where human life is involved. I maintain, therefore, that these men who assume this extreme position are teaching a dangerous doctrine. You will notice that they are men whose experiences are in the hospitals in the large cities. To those of us who are in cities like Minneapolis, where there are only two hundred thousand people, things are looked upon differently. In the country you are held responsible individually for these things, and you must recognize the right of your patrons to an opinion. You can not lay down hard and fast rules; you must give certain medicines or give the knife. And, while I admit with Dr. Harris and others that you can not tell what is inside of the abdomen, I maintain that if every case is operated on under all conditions and by every man who has a diploma, the percentage will run greatly above 17 per cent., which after all is not so very much lower than the "let-alone" treatment. With reference to the removal of the appendix in every case operated upon, I would draw that same line, making it depend upon the experience of the operator and the environment. I am in the habit of telling my students, "When you begin your work you will probably have to make an opening there big enough to get your hands and feet in to find anything you are after. If you see the appendix and feel it, take it out, but don't go pawing around for it." On the other hand, I am sure that most experienced surgeons will remove the appendix in the vast majority of cases. With reference to the blood count. I was very enthusiastic at first, and I had my internes working on it constantly, but I have got to the point where I only want it in certain few cases, but ordinarily it is a disturbing element. It does not give me positive information when I need it most, and many times it gives me information supposed to be positive that is misleading. In some cases with great pockets of pus we do not get sufficient leucocytosis to demand operation. Many times we get a marked leucocytosis with a simple catarrhal appendicitis.

DR. ROBERT T. MORRIS, New York—It seems to me that we ought to adjudicate the term "extremist." It is a matter of the application of the word. When a visitor in my barn, looking over my Jersey stock, drops a match in the hayseed on the floor and the match is still burning, I am an extremist on the subject of putting out that match and I do not care who calls me one. It is a question of understanding the subject with which we have to deal. With appendicitis we are dealing with an infection; no one can tell the limits of it any more than you can tell the limits of the match in the hay on my barn floor. It may go out. I have seen them go out before I could get to them, and I have been saved the trouble of operating on that match. I agree with Dr. Moore's position on most of the points, but we must make our position more clear by saying that we are to teach our students principles, just as the law class is taught principles. Can we say to the law class: "You men, half of you, are not to be taught principles in law because you will go out and get your clients in trouble. Your clients are going to lose estates and this widow is going to lose all that belongs to her. You are going to get your clients into trouble if I teach you principles!" The law class is to-day taught principles and the medical class is to-day taught principles just as the law class, and we are to explain the reasons why cases of appendicitis are to be operated on as soon as a diagnosis is properly made. I would emphasize one point particularly. I assume the diagnosis is made by men who are qualified to make it and that it is properly made, and then, it seems to me, our line of action can safely be left to the judgment of men who are graduating from the kind of schools in medicine that we believe in to-day.

Another point—Dr. McKnight's leucocytes. This is a matter of much collateral interest—the blood count—but it is not one of determining interest. I will not go over the ground that Dr. Harris covered, except briefly to state that all of his points were those of a practical man, and I agree with all he made. Many of our most violent cases have not had time to develop a leucocytosis. When a concretion is about to perforate the wall of the appendix, we have a marked spasm of the muscularis of the entire bowel, a definite progressive appendicitis, and yet little to stimulate development of the leucocytes, a development of leucocytes which would determine the question as to whether we are to operate or not. We must determine that point from our other sources of knowledge and must look upon the blood count as a scientific, valuable addition to our knowledge of the phenomena occurring in the course of these cases. This keeps me still on the point of leucocytes, and Dr. Deaver's and Dr. LaPlace's papers both bear on this point. It seems to me to-day that our whole plan of action in the treatment of appendicitis consists in forming a strong alliance with the leucocytes. We are dependent upon leucocytes to-day for our help in trouble. Anything which shocks the patient interferes with his development of phagocytes. The thing for us to learn to do in the treatment of appendicitis, with peritonitis—grave septic complications—is to let the patient alone as much as possible when operating and allow him to develop his phagocytes. If we introduce continuous irrigation, I am

afraid that we are taking some of that patient's strength. If we use gauze packing extensively, I am afraid we are taking some of the strength that is required for manufacturing the leucocytes. If we make multiple and extensive incisions, with wide flushing of the peritoneal cavity, we are using up the strength that the patient requires for manufacturing leucocytes. Leave him alone as much as possible; allow him to manufacture his phagocytes. That is the line of treatment today: that is the line of treatment that is to give us our best statistics. It certainly has in the hands of some men. It certainly is a matter to be determined, after all, by statistics. We do not care for this or that man's theory, so long as his statistics show his experiences are right. The matter of blood washing is more important than the matter of peritoneal washing. I believe, in short incisions, rapid washing out of the chief toxin-collection of fluid with hydrogen dioxid washing, without gauze packing, without extensive drainage, leaving some pus often, but giving exit to the chief toxin-bearing collection, and letting the leucocytes manage the rest. Clark's position was the opposite of Fowler's, yet Clark's statistics were the best we had up to the time of the presentation of Fowler's paper. Clark placed the patients with hips up and allowed them to drain through the diaphragm. Fowler drains the other way, but we know that both plans have their good points and have given remarkably good data. Back to the point of blood washing. These patients are loaded with toxins; their sympathetic ganglia are poisoned with toxins circulating in the blood. If we distend the blood-circulating channels with salt solution, fifteen hundred cubic centimeters at a time of physiologic salt solution, many of these patients who are going down, hour by hour, a little worse, worse to-night and worse to-morrow, and to die on the following day, will turn instantly for the better in fifteen minutes after you have distended their blood vessels with physiologic solution, because the toxins are being eliminated by the emunctories. The dull eye and the thirst change, not to-morrow, but in ten minutes after you have done this, and I do not know why it is forgotten by so many who know so well the points in washing out the blood, by the method of injecting salt solution into any available vein; it excites the emunctories to rapid work and causes the elimination of toxins circulating in the blood.

DR. F. D. SMYTHE, Memphis—What should concern us most as surgeons should be the consideration of those principles that will save the greatest number of patients suffering from this disease—appendicitis. I do not think that we should be handicapped by the consideration of a procedure that would cause additional delay in according these patients the proper treatment, which treatment is surgical if seen at the outset by a surgeon. No one questions that the ideal treatment in all cases of appendicitis would be immediate operation after diagnosis, if made by a competent man. If this practice could be carried out we would see none of those conditions described, such as peritonitis, extensive suppuration with perforation of the intestines, resulting fistulæ, etc. It is an operation unattended with danger if performed by a man who knows what asepsis and careful technique are, and the resulting mortality could not and would not exist. We can not be held responsible for those cases which are brought to us suffering from septic peritonitis—operation here does no good; they will die with or without an operation when permitted to go this far. Fulminating cases are, as a rule, not benefited by late operation. Here operation must be performed at the very outset if we expect to accomplish anything by it. The successful treatment of appendicitis depends upon its early recognition and prompt surgical intervention. One point with reference to drainage. I am satisfied that a few cases of appendicitis have been saved, with suppuration involving a large area in the right lower quadrant, by making a counter opening in the loin. It is indicated in cases where the appendix points upward, in order to establish more perfect drainage a large rubber tube is drawn through, maintaining thorough drainage; this would not be attained if gauze packing or the mere insertion of the tube were depended upon. This procedure has served me well on all occasions where its employment was indicated.

DR. JOHN B. DEAVER, Philadelphia, in closing—I am delighted with this discussion. It is the best on appendicitis that I have ever heard. I feel that if I should sit down and say nothing more, that this fifty-second session—and especially the surgical section—would go down in history. I feel that I have consumed too much time. Dr. Steele, Chicago, said he was not fortunate in making postmortem examinations. What is wrong in opening your wound and saying nothing to the members of the family? That is part of the operation. Dr. Murphy, Chicago, raises the question of peritonitis where we have an eroded peritoneum reddened and excoriated. It is beyond the aid of mortal man to be of any assistance. Therefore, always at the operating table I class these cases among the fatalities at the time of the operation. I believe much is accomplished in the way of relief from tension. Another question Dr. Murphy asked me was in regard to cases where the pus was creamy yellow—I would call these cases general infective peritonitis. These invariably get well. I have a number that my house doctor in the German Hospital operated on during that stage and all have gotten well. I have never lost one as yet when I have gotten them early. Dr. Murphy also remarks as to the type of infection. That is most important. It is not necessary for me to go into an examination of infection by the colon bacillus, staphylococcus, etc. With Dr. Murphy, too, I am sure no one can tell what is going on inside of the belly cavity and these fulminating cases of appendicitis mislead us if we delay the operation. The only sign, if I would call attention to it at all, that makes me fearful of the condition inside of the belly cavity, is pronounced general rigidity of the belly wall. When I see a patient with the belly walls like that table, on which I can not make any impression, in perfect health, has a normal temperature, but an increased pulse rate, with a history of sudden onset and abdominal pain, I am always apprehensive of that result. Anesthetize those patients, and, if under the effects of ether that muscular rigidity does not entirely disappear, that suffices oftentimes to bespeak the condition we will meet with inside of the belly cavity.

In reply to Dr. McKnight, who raises the question of blood count. There is much to be said on the blood count. I do not believe delay should be permitted on account of it. I believe that we should operate, then make the blood count, if time is of any question. I believe, too, in the presence of gangrene, that leucocytosis is dangerous as a guide, because it is unreliable. Irrigation in general peritonitis, if it is the type that Dr. Murphy referred to, does not mean anything, and, with Dr. Morris, I believe that the less you subject the patients to the resisting power of additional attacks, the better likelihood of the outcome.

The question of Fowler's position—I have used it ever since Dr. Fowler described it and with happy results.

To my friend, Dr. Moore, I will say that we have to be careful in the handling of students, but, at the same time, truth is mighty and must prevail. The teacher that stands before a body of young men, who are going out to meet the responsibilities of a doctor's life, and teaches them the doctrine that Dr. Moore brought forth here, will be the means of erecting many an appendiceal tombstone. Give us teachers who have the courage of their convictions. I feel very strongly upon this point, for I feel that it is absolutely wrong to appear in any but the proper guise. Therefore, I am firmly of the opinion that an early operation is the *sine qua non*.

Success of Sclavo's Anti-Anthrax Serum.—The *Gazetta degli Ospedali* states that eight persons were taken sick after eating meat from a steer that had died from anthrax. All promptly recovered after treatment by injections of Sclavo's anti-anthrax serum at the Siena University Clinic. Fourteen other persons in a similar epidemic at Santa Croce were cured by the same means, and others at Castel and Colle Val. Alberto describes in detail in the issue for September 1, another severe case cured by the serum six months after the date of manufacture. Sclavo offers his serum free of charge to physicians on request.

MODERN ASPECTS OF CONGENITAL OSSEOUS MALFORMATIONS.*

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NEW YORK CITY.

The most frequent abnormality of the upper extremity is polydactylism. If there is but a rudimentary finger attached loosely by a pedicle which does not contain any phalanges at all, removal is simple.

In Case 1, illustrating a boy of four months, the supernumerary digit, as shown by the skiagraph, contained no bone-tissue. (Fig. 1.) Removal was naturally easy. In the same case there was a partial fusion of the third and fourth metacarpal bones, a condition which would not have been diagnosed without the Roentgen rays.

Case 2 represents the more complicated type of true supernumerary digits articulating with each other. There was also a supernumerary digit attached to the little toe. (Fig. 2.)

Fig. 1.—Non-osseous supernumerary digit and synostosis of third and fourth metacarpus.

Case 3 shows a true supernumerary phalanx attached to the thumb and articulating with the first metacarpal bone. It is nearly as large as the normal phalanx and possesses a well-developed nail. It is held in abduction.

Case 4 illustrates the complicated type of syndactylism in a boy of four months. The parents are in good health and emigrated from Hungary eight years ago. The second, third and fourth digits appear to be fused together, each one of them, however, possessing its own nail. The skiagraph shows fusion of the first and second phalanges of the third and fourth digits, while their third phalanges are free. The little finger is more developed than the slightly deformed thumb. The carpus is not ossified yet, and shows no shadow therefore. Under the guidance of the Roentgen rays it was easy to divide the phalanges. The middle finger was protected by a large longitudinal flap taken from the dorsum manus. The other two fingers were covered by their own integument, longitudinal flaps being formed from the palmar surface for the second finger, and another from the dorsal aspect of the fourth. The final result is good.

In syndactylism the Roentgen rays always prove whether its nature is cutaneous or fibrous or osseous.

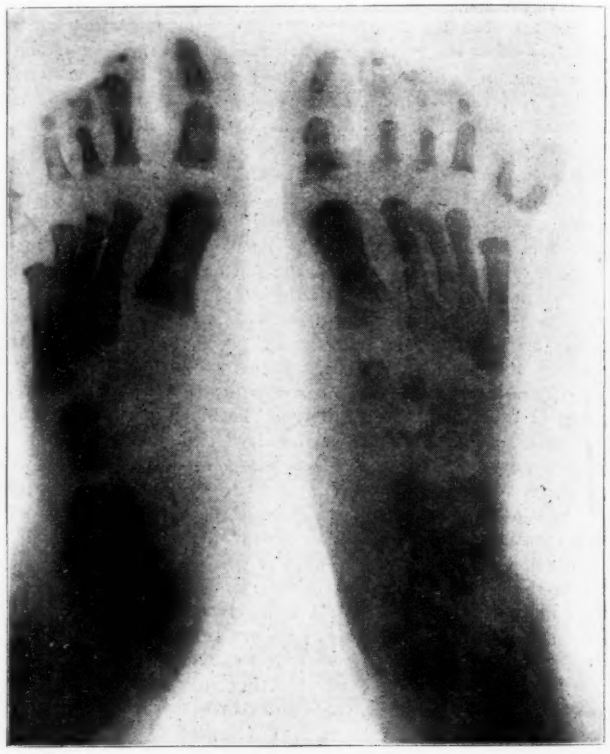

Fig. 2.—Supernumerary phalanx of the left little toe.

Fig. 3.—Congenital fracture of radius and ulna.

Case 5 shows congenital exostosis in the second phalanx of the index finger in a boy who was born in Germany nine years ago. The family history showed nothing abnormal. The Roentgen rays demonstrated the benign character of the osseous growth clearly. In view of the presence of functional disturbance removal with the chisel was undertaken.

* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Diseases of Children, and approved for publication by the Executive Committee of the Section: Drs. H. E. Tuley, Edwin Rosenthal and Samuel W. Kelley.

Congenital deficiencies are naturally much less amenable to corrections. But that even in desperate cases of this kind surgery is not without resources is made evident by the transplantation of a toe to the hand, successfully undertaken by von Eiselsberg.

It seems to me that this special branch of surgery is too much regarded as a stepchild. Considering that in the lower animal, as long as in the embryonic stage, regeneration of large portions of the head and trunk are possible, it should be expected that the new-born child—in a smaller proportion, of course—also offers more changes for regeneration than the adult. If the germinal layer is only present, further development of tissue can be looked for. If a part of a phalanx is properly severed, its individualization is a matter of great probability, provided the bridge remaining has preserved sufficient vascularity for nutrition, that there is no overextension

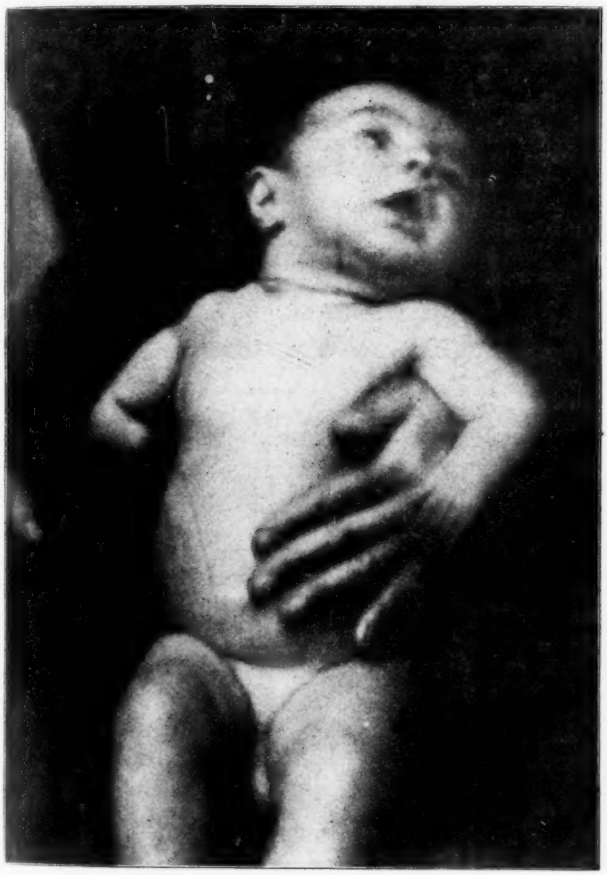

Fig. 4.—Congenital absence of the radius and ulna.

of the flap and thorough aseptic precautions are taken.

Fortunately, the Roentgen rays are predestined to give an impetus for a new operative strategy in this much neglected field. Thus, in a case of brachydactylism, combined with electrodactylism, the Roentgen rays proved to be of great value. In Case 6, that of a boy three months, there were five rudimentary fingers. The skiagraph showed the presence of one phalanx of the thumb and of two phalanges each of the other fingers. The child was the first born of German parents, who emigrated five years ago. The mother is healthy. The father was suffering from tubercular knee at the time of the birth of the child, and died from general tuberculosis a year afterward.

Under the guidance of the Roentgen rays I performed a flap operation on the principles set forth in Case 4, between the first and second finger-rudiment. Thus a fairly good thumb was created. The case, however, offers two more points of interest. In the first place there was congenital fracture of the ulna and radius at

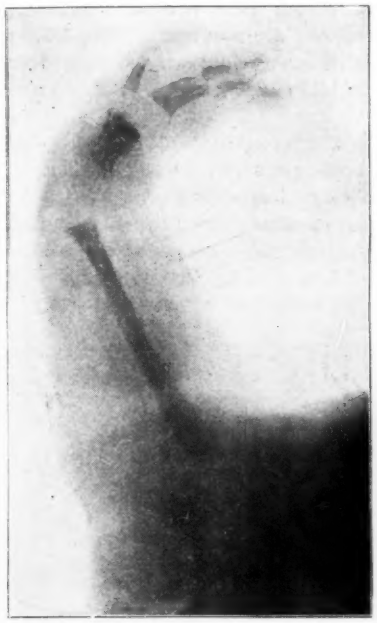

Fig. 5.—Skiagraph of Fig. 4.

their lower third. (Fig. 3.) The forearm could be bent easily at the seat of the fractures. After wiring the fragments union became perfect. There was, furthermore, congenital constriction at the region

Fig. 6.—Congenital absence of metacarpi and phalanges of the second, third and fourth fingers.

of the surgical neck of the humerus, where a deep furrow encircled the whole circumference of the arm. Palpation was unable to detect any soft tissues between the integument and bone. An exploratory incision revealed the presence of the fragments of the

biceps, triceps and deltoid muscles. Their edges were refreshed and united with catgut. For relaxation, two deep wire sutures were introduced from without. The result is fair according to the last report, fourteen months after the operation.

It may be added that the otherwise well-developed right hand shows a moderately deep constricting furrow near the metacarpophalangeal junction of the middle finger, which did not seem to demand surgical interference.

Case 7 shows congenital club hand associated with absence of the radius and ulna. That there are only three fingers is shown by the photograph (Fig. 4) and that but three metacarpal bones are present becomes evident by the skiagraph. (Fig. 5.) The patient is a boy of six weeks, born in New York. The family history is good. The parents emigrated from Italy two years ago. The father

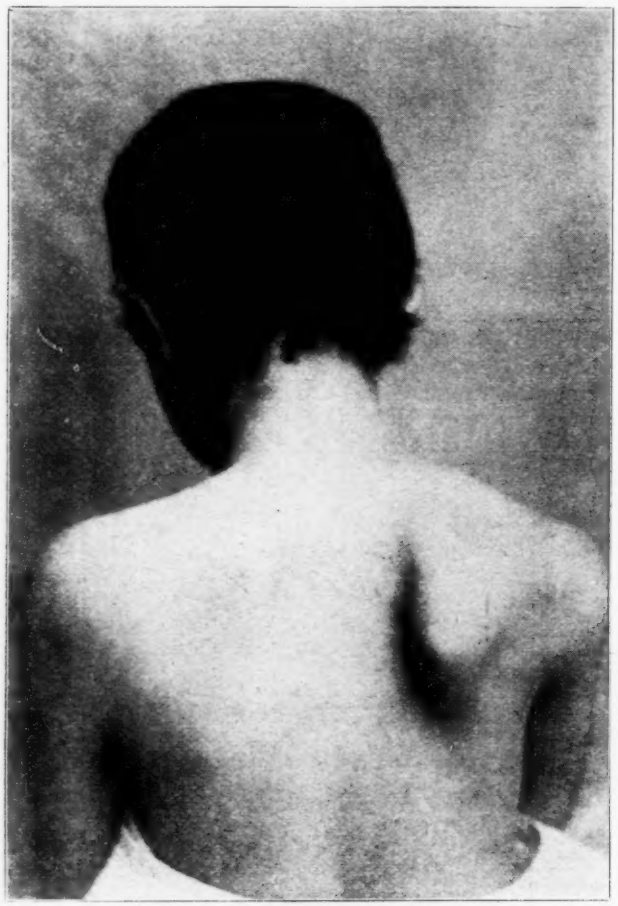

Fig. 7.—Congenital scapular asymmetry.

is 66 and the mother 41 years old. Both are in good health. There are three previous children, all of whom are well. The left arm of the boy is normal, with the exception of the thumb, which is partially ectrodactylic, like the thumb reproduced in Fig. 3. The muscles do not show any atrophy. Extension and flexion of the wrist was possible to a moderate extent.

I attempted to improve this deplorable condition by creating a thumb after the principles carried out in Case 6. For this purpose a dorsal incision was made down to the first metacarpal bone, which I divided longitudinally, thus making a kind of bifurcation. The phalangeal end was severed entirely, but the carpal end, after being longitudinally fractured, was left in slight connection with the metacarpal bone. Thus a new bone was obtained, which was surrounded by dorsal as well as palmar flaps. How far this new fourth finger can be utilized can not yet be known, the child still being under treatment. The skiagraph shows its position. The treatment of the club hand by osteotomy and

Fig. 8.—Congenital absence of one metatarsus and corresponding phalanges.

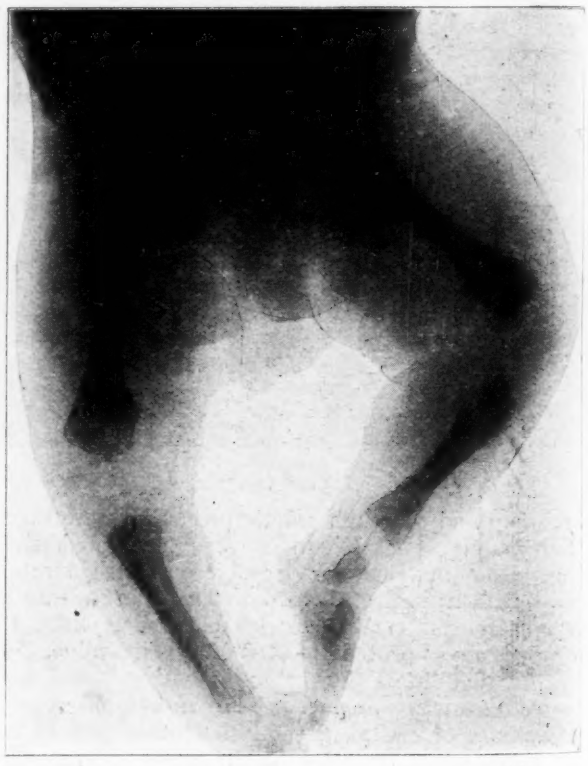

Fig. 9.—Congenital shortening of the right femur.

reversion of the abundant skin to the opposite side will be attempted later on.

Case 8 represents a boy of three weeks, born from healthy German parents, who shows neither carpal nor metacarpal bones. There are three phalanges at the

ulnar and two at the radial side, the latter undoubtedly representing the thumb. (Fig. 6.)

Case 9, which was observed before the discovery of the Roentgen rays, may be added in view of its rarity. It represents congenital absence of the arms and forearms. The clavicle as well as the scapulæ were normally built, but of smaller size. Neither the glenoid

Fig. 10.—Congenital hypertrophy of toes.

cavities nor the coracoid processes could be made out well. Instead of the round shape of the shoulder an angular prominence is noted. Adjoining the ribs a small bone could be felt below them, which might have indicated the rudimentary representations of humerus and antibrachial bones, but their nature could not be clearly defined. To this the rudimentary hand was at-

Fig. 11.—Congenital dislocation of both hips.

tached, which contained five fairly developed fingers, provided with nails. The metacarpal bones could not be made out distinctly.

The patient, a boy, born in New York, was ten months old when the photograph was taken. The parents emigrated from Germany fifteen years before the birth of the child. Both are fairly well, but poorly nourished. One sister died from meningeal tuberculosis. Two brothers and one sister are alive and healthy. The patient died from dysentery when a year old.

Case 10 shows congenital scapular asymmetry in a girl of 11 years. (Fig. 7.)

Case 11 (Fig. 8) shows the presence of four metatarsi and their corresponding phalanges only, in a girl of

Fig. 12.—Congenital absence of nasal bones and insufficient development of nasal processes of supra-maxilla.

seven weeks. The family history revealed nothing abnormal. There is no functional disturbance.

Fig. 13.—Skiagraph of Fig. 12.

Case 12 (Fig. 9) represents the lower extremities of a boy of three weeks. The left extremity is normal, while the right one shows shortening of the femur to the extent of an inch. There is no muscular atrophy. Whether intrauterine fracture of the femur was the cause of the

shortening could not be elicited. From the study of the skiagraph it seems to me to be improbable. Shortening of the healthy femur for the purpose of equalization was considered. The degree of functional disturbance can, of course, not be estimated yet.

Case 13 shows congenital hypertrophy of all toes, especially of the second, in a boy of four months. They appear very thick and puffy like in elephantiasis, but the skiagraphs show normal structures. (Fig. 10.)

Case 14 shows congenital dislocation of both hips in a girl of 9 years. The cartilaginous epiphyses of the femurs are dislocated and the right femoral neck shows extraordinary bending. (Fig. 11.)

Case 15 represents congenital absence of nasal bones and insufficient development of nasal processes of the superior maxilla in a boy of two months. The infant is poorly nourished. The parents came from Russia five years ago and are well. There are four healthy children besides. (Figs. 12 and 13.)

It may be noticed that none of these deformed children were born of American parents and that heredity could not be made responsible in any of them as an etiological factor.

SOME SUGGESTIONS REGARDING A DEPARTMENT OF SCHOOL HYGIENE.*

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CLEVELAND, OHIO.

Definition.—From Dr. William H. Burnham, professor of school hygiene at Clark University School for Teachers, I have received this very good general definition of school hygiene. "School hygiene has to do with the conditions which favor the normal healthy development of children, so far as determined by school environment—school sanitation—and school programs, sequence of studies, text-books, and methods of study and instruction—hygiene of instruction."

Rationale.—Quoting from a former paper, I will again cite the fact that those nations which have exercised a powerful and elevating influence have been and are those which have exercised a care for the health of their citizens. Within fifty years indisputable evidence has induced nation after nation to recognize the value of sanitary science as the preserver of national health and wealth, as well as elemental to military success.

In a democracy self-preservation demands an educated citizenship. This underlying principle allows the state to say to the prospective citizen: "You shall, for an adequate length of time, be placed under such instruction as will make of you an honest, intelligent and useful citizen." Anything short of this will not insure the stability of the state. An elemental condition of useful citizenship, however, is a fair degree of physical health.

Moreover, there are certain unsurrendered rights of the citizen. Among these is the right to as fair a degree of health as his ancestors, and his right and moral duty to transmit to his offspring as good or better health than he himself enjoyed.

Hence, it is both the interest and the duty of the state to insist, when it places the individual under formative educational processes, that the physical basis in the educational structure be adequately and properly laid. For the most part the state has not assumed to dictate methods to the educator, simply holding him responsible for results. Both opinion and fact testify that the desired improvement in health from grade to grade has not been attained. In America this is the more strikingly true of the children of the cities. These rapidly built wildernesses of incongruous construction express little evidence of any desire to protect and foster child life. Their dark, noisome alleys and tenements contain millions of the miserable offspring of ignorant foreigners—poorly born, poorly housed, fed and clothed, with crooked spines, misshapen skulls and pathological eyes or ears, with little in their environment to produce self-respecting, self-supporting citizens, but with many conditions which tend to convert them into a dependent class.

To thousands of acres of such slumdom, public education alone, in any large sense, stretches out the reclaiming hand. Upon it is thrown the responsibility of converting these children into people who are physically able to compete with the children of protected labor and capital. Either this must be done or we must prepare for a steady increase in the dependent classes. The proposition is a simple one. Shall we put sufficient money into the schools to enable them to produce self-supporting citizens, and then hold them strictly accountable for results, or shall we half support them, paying little attention to the health of the children, and later on spend much larger sums of money for the construction and maintenance of hospitals, dispensaries, police stations, saloons, reform schools, workhouses, etc.?

Fortunately, public sentiment has become so favorable to better school sanitation that even now this can be made an issue in a school election. Not only is this so, but the school official who disregards his pledges in this matter can easily be defeated in a subsequent election. Physicians should combine with good organizations to secure the defeat of all such officials. It is especially appropriate that the city physicians use their combined influence with all civic organizations in this matter, for they, more than any other class of men, are forced to carry the steadily increasing burden of indigency. At the same time they understand better than does any other class of men its causes and appreciate more fully its large extent. Of all men, they realize most keenly how impossible it is for the homes of thousands of these children to evolve an effective type of citizenship.

Content.—Leading authorities place the following within the province of school hygiene:

School Diseases: Those of the respiratory tract, of the spine, of the nervous system, and of the special senses; general infectious diseases; the eruptive fevers.

Hygiene of Instruction: General; school age; amount of study; home study; arrangement of work; number of sessions per day; discipline; punishments; public examinations; number of pupils to a teacher; regularity of attendance; courses of study; individual branches—their comparative effect on health.

Personal Hygiene of Pupils: Food; clothing; sleep; exercise; bathing.

Physical Education: General; history; literature; as a department of science; as a department of hygiene; as a pedagogic discipline; as a practical art.

School Grounds: Soil; area; dimensions; surfaces; planting; school gardens; play grounds.

Buildings: Placing in grounds; foundations; base-

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ments; materials; general dimensions, as affecting school-room construction; heating and ventilating; lighting.

School Rooms: Dimensions; shape; furniture and its placing; floors; blackboards; colors; lighting; heating and ventilating; cloak rooms; supervision of conditions.

Furniture: Adaptability; cardinal points in construction; supervision.

Ventilation: Introduction of good systems; strict supervision of the same.

Heating: Different methods; temperature records; atmospheres; supervision.

Cleaning: School dust; methods and frequency of cleaning; supervision.

Sewerage: Systems; ventilation; supervision of closets, urinals, etc.

Since many of these phases of the subject will be discussed in the papers to be read, this paper will content itself with the mere mention of these important phases of school hygiene.

Introduction.—This may be effected in several different ways.

1. Upon the recommendation of the superintendent of instruction the board of education may consider the matter and arrange for a department. This presupposes a progressive superintendent, backed by an unusually intelligent and progressive board of education. This combination is rather unusual. Where it exists, however, the superintendent and board should feel that they have the moral and political support of the profession, as well as its assistance and counsel. A strong committee from the leading medical society can render services of great value in this connection. The factors most affecting the success or failure of this plan are the school board, the superintendent of instruction and the teaching force. Hence a few comments concerning these will be in place.

During the past six years we have attempted to introduce a department of hygiene into the Cleveland schools, following this plan, and the result is still doubtful. Here the federal-plan law is supposed to dissociate the department of instruction from the distinctively business department and to take the former out of local politics. Perhaps it accomplishes this, year for year, in a larger degree than is the case under the usual forms of school board organization. Notwithstanding, however, the earnest efforts and yearly recommendation of our superintendent, Mr. L. H. Jones, it has been impossible to secure the adequate co-operation of the school council in the establishment of a department of school hygiene. The work has grown with the teaching force and with the public to the proportions of a full-fledged department and is so recognized on all hands, except by this singular body. On the other hand, during the past year there was introduced and favored by certain members of the board, a measure which was calculated to divide the work in school hygiene, placing several medical inspectors directly under political control and so dividing the whole matter as to prevent the possibility of an effective department. It is probable that this measure would have passed but for the vigorous protest of many of the leading physicians of the city. This, together with other acts of a similar nature, leads me to conclude that city school boards, as at present composed, are not competent to introduce and foster adequate measures for the conservation of the health of the school children. Neither are they willing to employ and follow the suggestions of those who make such matters a life study. Hence it is necessary, if this plan is to be successfully carried out, that certain limits of eligibility should be placed upon membership in these bodies, in order that they may contain men who are vitally interested in the health of the children, as well as men of sufficient executive ability to secure sanitary school conditions.

Among other qualifications, they should be men of mature judgment, but an age limit, say 55, should exist. They should have a vital connection with the schools through having children therein. They should be men of assured executive ability through having succeeded in business. They should not be known as local politicians. These matters are emphasized because the school board is the snag on which such reforms usually stick, and because physicians, through combination with other organizations of good citizens, can materially assist in the election of an effective school board.

The average superintendent, supervisor and principal will assert that he is interested in the health of the children. In a general way this is true. But it usually requires a fierce flame of public opinion to secure adequate action on his part. Frequently he is content to foster the traditional subjects, grammar, arithmetic, etc., and let other people look after the health of the children. He has not yet realized that the problems of education in the wretchedly built and governed American city of to-day are quite different from those of the towns and villages either of to-day or of a generation ago. It takes an occasional revolution in school management to awaken him to this fact. Such a revolution the medical fraternity can, if necessary, inaugurate. On the other hand, if the superintendent is a leader in educational matters, he will need the hearty and continuous support of all medical men, in order that he may carry out his plans in conserving the health of teachers and children, in spite of the constant interference of scheming politicians, which he is sure to encounter at every turn.

So evident has been the growth of interest and accomplishment among the rank and file of the teachers, that I am pursuaded that the teaching force does not stand in the way of the introduction of school hygiene into city schools. In Cleveland the great majority of the teachers have given the work suggested fully as much attention as justice to other branches will allow. The instances are very numerous in which teachers, at their own expenditure of time or money, and often both, have taken care of pupils whose parents were unable to do so. Many of the teachers are far more enthusiastic about all such matters than are any other class of people. They deserve the highest praise for their efforts along these lines.

2. Where the superintendent or the board, or both, are inoperative the problem can be solved, if an able man is available, by his election to the executive position—that of director of schools, for instance. To do this the medical fraternity must secure the co-operation of all civic organizations which stand for the public welfare and through their efforts elect an executive, who is at the same time a sanitarian. The difficulty in carrying out this plan arises from the fact that the necessary business qualifications for this office are not easily secured, even without the special qualifications of a sanitarian.

3. This plan is the one which in my estimation covers the larger number of cases and is the more hopeful of immediate success. The committee on state medicine of the leading medical society, or the local pediatric

society, may call to its support in each school district the services of two or three physicians who are well and favorably known. They should be men who are established in practice. As special examiners, these men should give half a day or more to the work of subcommittees. The general committee should place in their hands lists of questions covering the more important phases of school hygiene. To secure such lists, reference may be made to the outline of school hygiene given in this paper. A list recently used in Cleveland is herewith given.

REPORT ON SCHOOL HYGIENE.

..... SCHOOL.

1. Provided all should use them do you find the play grounds ample for the number of children in the building? .....

2. Are the play grounds in good condition for play? .....

3. Do you find any rooms from which the light is cut off by annex or other buildings? .....

4. Are the buildings so located and is the school yard of sufficient size to prevent the darkening of any of the rooms by the future erection of adjacent buildings of four or five stories? .....

5. Do you find any rooms in which the ratio of window to floor space is less than one square foot of glass to five square feet of floor? .....

6. Do you find that street noises interfere with the instruction in any of the rooms? .....

7. Do you notice a bad odor in any of the rooms?

8. Do you notice a bad odor in connection with the water closets and urinals? .....

9. Upon inquiry and inspection does the heating and ventilating system seem to you to be satisfactory? .....

10. Does the form and arrangement of the school furniture, as you see it in use, appear conducive to eye strain or spinal curvature? .....

11. Do you find the surfaces of the rooms, furniture and halls clean and in good condition? .....

12. How many basement, attic or recitation rooms, relief building rooms and storerooms do you find in use as school rooms? .....

Please add comments. What do you consider of *primary*—of *secondary* importance to the sanitation of this building?

Primary .....

Secondary .....

....., M.D.

....., M.D.

....., M.D.

Sub-Committee at School.

This refers more especially to matters in connection with school property. Questions are asked about conditions which a casual observer might see almost any time upon visiting a building. Here the work of many of the subcommittees has been quite complete and their reports will throw considerable light upon the situation. When they are all collected and tabulated the general committee, appointed by the Cleveland Medical Society a year ago, will have much of the necessary data with which to go before the board of education and, if need be, before the legislature. When it does this, a complete scheme for a department of school hygiene should be placed before one or the other of these bodies, with a strong recommendation for its adoption. In addition, the committee will need to follow up the matter and see to it that its recommendations are really followed. For there are usually enough scheming politicians on a city school board to evade or pervert such measures for their own personal benefit. These should be turned over to a committee of citizens, which, in co-operation with the local papers, will at once inform the public of any deviations from the right path. It will not require many reports, under these circumstances, to secure for the committee a more efficient school board.

Organization.—First of all, a department of school hygiene must have for its head a medical man who is at the same time a school sanitarian. For it is evident that the territory between the practitioner, whose observations are largely of pathologic conditions, and the educationist, whose observation is limited in large measure to mental phenomena, is a broad realm; the realm in which, for the most part, preventive medicine must operate. While it will be noted that it contains much which lies within the fields of actual practice and practical education, it is at the same time evident that there is a vast amount of opinion and a large collection of facts, which, for their advantageous assimilation by a city school system, requires the constant study of men especially trained for this phase of school supervision. On the other hand, that there may be actual accomplishment, rather than mere study of problems, the director of a department of school hygiene should possess the training and the sympathy of his fellow physicians, the skill of the teacher and the organizing ability of the educator. Hence, while he should be familiar with the experiences of the general practitioner, just as should any other specialist, yet his field of operation presents so many problems which neither the general practitioner nor the teacher are called upon to solve that he must be a specialist in this field of preventive medicine if he is to succeed in any large measure. His whole time must be devoted to the subject. Not only this, but he must be both level-headed and at the same time enthusiastic, an organizer, a leader and a worker. This field offers unlimited opportunities to an ambitious, well-educated young physician with plenty of money.

In addition to an efficient head, the department must have assistants. A large amount of office work will accumulate, which can be done by assistants at $50 per month, and which should not be done by a man whose time is worth several thousand dollars a year. To these should be added all special teachers of physical education, physiology and hygiene, etc. In addition, he should have at least one medical assistant to look after special cases and supervise in a general way the work of medical inspectors in the different districts.

Taken altogether, there ought to be sufficient help to enable him at any time to prepare quickly for the superintendent, or for the board of education, an exact statement concerning any condition within the schools which affects the health of teachers or children. Since the larger part of the work in his department lies in supervising the work of teachers, he should have plenty of special teachers, whom he has trained to supervise in an efficient manner the work of the regular teachers. Too much emphasis can not be placed upon this. The regular teacher in the grades needs constant assistance and encouragement. In Cleveland, at least, she receives entirely too little. She has many subjects to teach. Her program is crowded. Wise and constant supervision is required if each hour of the day is to be beneficial.

Medical Inspection.—Without medical inspection of special cases, a department of school hygiene is incomplete. Hence a fund should be available so that the director can call to his assistance physicians in the different school districts to act as his special medical examiners. The fund should be ample to secure the services of a sufficient number of experienced men. At stated intervals they should visit buildings and examine

such cases as the principals may send to them. This inspection is of great value. It should not for a moment be thought that it will take the place of a department of hygiene. For many teachers and principals will not send all the cases needing attention to medical examiners unless they know that their rooms are closely watched by special teachers of the department of hygiene and that they are liable to be summarily called to account for negligence in the matter. I have satisfied myself on this point from investigations in city schools where medical inspection is supposed to cover the ground quite thoroughly.

Status.—The advice and the activities of this department should be entirely unbiased. This means that it should have no connection with school politics and should be entirely free from school traditions. It must be, therefore, under civil service regulations. I have held the position that its head should be an appointee of the superintendent of instruction. This certainly is much better than that any professional man should be hampered in his work through an appointment made by designing politicians. My own experience, however, is inclining me to the view that some position, equal with or above that of any present school official, must be created by the state before the health of school children receives the proper consideration at the hands of the educationist and the politician. These people fight each other, while the teachers go without adequate facilities, the children suffer and the people become distrustful of the efficacy of public education.

DIAGNOSIS OF THE BACKWARD CHILD.*

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CHIPPEWA FALLS, WIS.

To formulate a definition which will describe the term "backwardness" in children is a task of considerable difficulty. It is made still more difficult by the extreme vagueness of the term as used by more recent writers, who use the terms "backward" and "feeble-minded" almost interchangeably. The truth of the matter is simply this, that there is no sharp line of distinction between the normal and the so-called backward child, or between the markedly backward or feebly-endowed child and the high-grade imbecile. No standard of mental activity has ever been fixed by which we can accurately determine these questions. Psychological studies, which are now being actively pushed, both in institutions for normal and abnormal children, promise in the near future to give us some more definite standard on which to base our diagnosis.

The variety of opinion on this subject is well illustrated by comparing the report furnished by Prof. Will S. Monroe, who gathered statistics of 10,000 school children in California by means of circular letters sent to the different teachers of the state, with those of others who have investigated the same subject. The report of this gentleman, compiled from the answers to his letter, shows the teachers considered nearly 10 per cent. of their charges as backward. Dr. Francis Warner, member of the Royal Commission to examine the blind, deaf and other classes requiring exceptional methods of education, out of 100,000 school children reported 7 per cent. dull and backward, while 1.6 per cent. required especial care and training. A report formulated from the examination of 42,000 children in Great Britain of the elementary school class between the ages of 7 and 13, gives 1 per cent. of defective children as the result. Mrs. Esten, supervisor of special schools in Providence, R. I., a city of over 150,000 inhabitants, states, in a recent article, that 50 pupils were then receiving instruction in their special schools, and that a recent canvass had revealed the fact that there were yet about 100 children who ought to be provided for. This is in decided contrast with the first statistics quoted, and shows how badly some standard for comparison is needed. Dr. Shuttleworth, in an article on the treatment of children mentally deficient, laughingly calls attention to the high standard Americans set for their children, and states that he was jocosely warned by an American friend, when he was about to make a tour of the institutions for the feeble-minded in the United States, that "He guessed I would find their feeble-minded children about equal to the average British schoolboy." It is plainly to be seen that in the teachers' returns compiled by Professor Monroe, each teacher must have filled her return according to her own individual judgment as to what should constitute a normal average.

I seriously doubt if it is true that a boy is necessarily dull or backward because he can not follow the curriculum formulated in the schools. However excellent this may be for the average child, there are many boys classified among the dull ones in their classes who turn out to be successful men after their school days are past. What they may lack in the faculty of merely memorizing, they more than make up in their power of reasoning and acuteness of judgment. Certain special faculties may be entirely absent, and while this lack may interfere with a boy's school progress, and may deprive him of much enjoyment, it may not in any degree interfere with his usefulness or affect the public estimate of his mental strength. These include such faculties, for instance, as the musical faculty, the mathematical faculty, discrimination of colors, etc. Our estimate of mental strength must rather be formed from his power of attention, his strength of memory, his efficiency in that method of reasoning which comes to us all instinctively in our early days, and which has been quite extensively treated by Carpenter, under the every-day designation of "common sense." On the other hand, abnormally slow perception, lack of power to fix the attention, distorted judgment, feeble memory, or a decided lack of moral sense are mental symptoms which would tend to place the subject among the backward class, and if different methods are faithfully tried to remedy these defects without marked result in a reasonable time, we may safely conclude that they indicate not only a backward but a feeble mind. Among the physical symptoms which are strongly indicative of lack of normal mental growth, the failure of articulate speech, where defect of the auditory apparatus, or that concerned in articulation does not exist, is the most conspicuous. In the absence of these physical defects, if the appearance of speech is delayed beyond the age of 6 years, it may be safely inferred that cerebral deficiency or lesion exists, and that some mental weakness surely accompanies the child's silence. Gait and posture are of some value, taken in connection with other symptoms. The former is apt to be slow

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and awkward, the latter stooping. The lately published observations of Wiley would tend to show that the sense of touch is generally less sensitive than in the average child. Sensibility to pain, especially in cases of marked dulness, is very frequently found and would tend to indicate a lack of tone in the whole nervous system. Family history will render valuable aid. As all mental action has a physical basis, and as the physical formation of each individual is but the sum total of ancestral traits, we may expect parental weakness to exist, either active or latent, in the offspring. Again, while a fair memory by itself is no indication that mental weakness or delayed mental growth is not present, a failing memory, or one that fails to respond to training by any marked improvement, may be looked on as abnormal.

Much argument has been held whether moral sense should be regarded as a purely mental trait, and whether such a thing as moral imbecility exists. On the minds of those who have daily intercourse with large numbers of defective children, the actual existence of moral imbecility has been impressed as a disagreeable fact. So radical is this defect in many cases and so persistently will a child do evil and not good in spite of all efforts to lead him into right methods of thought and action, that one is forced to regard it as a perversion of normal mental development. Histories of cases have multiplied, following individuals with this affliction through life, and it has been demonstrated that in certain instances favorable environment would invariably bring into action the old evil practices. I have seen cases of this kind where the remaining mental faculties were nearly normal, in which the individuals insisted that when the impulse to do wrong came upon them it was stronger than their will power and beyond their control.

Let us glance for a moment at the normal growth of a child's mind, in order to understand better where failure may occur. After the instinctive acts of early infancy, the first thing that attracts us is the awakening of the power of attention in the child, such as the movement of its eyes as they follow a bright object. This faculty rapidly gains in acuteness and is the basis of mental growth. The failure of the proper development of attention, or we might say, the power of fixing the attention, is fatal to all attempts at education. From this time, as the various sense organs assume functional activity and convey sensory impressions inward to be stored in the proper groups of brain cells, we see the beginning of memory and the child becomes an animated interrogation point, worrying its elders by constant questions in its hunger for information. By this time we will be able to gauge somewhat the child's probable capacity for acquiring information, for on memory depends largely the child's mental capacity. Still a little later and the will power exhibits itself in control of these memories, formulating them into thought. A child learns to connect ideas or impressions which come to it through the sense organs and have been stored as memories, and to draw from them fresh ideas. In other words, the reasoning power develops and the child begins to reason from the known to the unknown. Furthermore, he begins to realize the value of each thought, or idea, and judgment has its birth. This is the most valuable of all mental acquirements. An individual with a rather weak memory may make a poor showing in school, and yet with acute reasoning powers may be able to make most valuable use of what he does remember. Such children ought by no means to be classed among the dull and backward. With the development of reason and judgment is aroused a respect for the rights of others, which forms the basis of moral sense. These faculties comprise, I believe, all the important elements of a normal mind. Their practical value in the mental framework varies much, but the failure of any one of them to appear at the usual age constitutes a backward child. Whether the child be temporarily backward or inherently backward or feeble-minded, is a question that we can decide only by examination and training. From what I have so far presented we may advance the following conclusions:

Delay in mental development may be temporary or permanent. In the former case we should speak of the child as merely backward, in the latter, as feeble-minded.

When this condition is due to a lack of proper training, or to temporary ill health, it may often be entirely overcome by proper treatment.

There has been no definite standard established upon which to decide whether a child is backward or not and we have no other guidance than by comparison with supposed normal children of the same age.

The qualities on whose absence or faulty development we form our judgment are acuteness of perception, power of attention, strength of memory, accuracy in reasoning and judgment and growth of moral sense.

Certain physical conditions are of aid in diagnosis of a backward condition, especially when considered in connection with delayed mental growth. Prominent among these are deformities; defects in or absence of articulate speech, not due to mechanical faults or deafness; defects in co-ordination and an awkward gait; defective physical growth and lack of acuteness in different sense organs. There are none of these absolutely pathognomonic, with the possible exception of lack of speech due to cerebral defect.

I can not close this paper without calling attention to one fact, which is, perhaps, not in direct accordance with its title, but yet is of vast importance from a sociological point of view. The comparatively large number of backward and high-grade imbecile children has led to the opening of schools for the special teaching of this class. It is probable that a large proportion of the children will be high-grade imbeciles, or those in which the mental defect is permanent. This may be largely masked by education and the children be graduated to marry and take a place in our great social life. These schools should be constructed so as to constitute clearing-houses to separate the inherently feeble in mind from those whose mental growth is retarded by circumstances temporary in character. So conducted they may be most useful. Education will not remove in a few years weaknesses which may have been generations in developing, and children thus matured will probably select one of their own mental grade in marriage, possibly a graduate from the same school. Hon. J. D. Alexander, before the National Conference of Charities and Corrections, in Topeka, cites a case where a woman was allowed to leave the Ohio institution and they now have eleven imbeciles, her offspring, to vouch for the success of such practice. Such instances are so common, though perhaps in less degree, as to form a valuable object lesson. If our high-grade imbecile girls and boys follow this course, we shall need many more such special schools than have been now established, and we may feel reasonably sure of pupils enough to fill them.

SPEECH AS A FACTOR IN THE DIAGNOSIS AND PROGNOSIS OF BACKWARDNESS IN CHILDREN.*

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The subject under discussion is one of more than usual importance. It is said that there are, in Philadelphia alone, more than twelve hundred school-children who are unable to keep up with their classes and for whom no adequate provision has been made. This large number does not include the high-grade imbeciles and idiots who never get into the schools, but only those who are said to be "backward in their studies."

Scientific discussions often fail to be of value because of a lack of a definite and uniform nomenclature and therefore it may be well to come to some understanding as to exactly what we mean by the term "backwardness in children." No two children are of exactly the same grade, mentally, but they differ in this respect as they differ in respect to physical characteristics. The backward child, according to the common acceptation of the term, is one who is below the average intelligence of children of the same age; and for our present purposes, this is probably the best definition; but a more scientific one would make the term "backward child" mean one who is not living up to his own possibilities or capabilities. This definition, however, is in advance of the times and it will be applicable only when children receive more individual study and training and when they are not herded together like sheep, regardless of their peculiar characteristics and needs. Moreover, it will be observed that backwardness, in this paper, will be regarded as a disease. This is for the sake of convenience and not because it is in all respects deserving of so much distinction.

The diagnosis of backwardness is not difficult. All children who do not, can not or will not keep up with their classes must be regarded as backward, according to our definition, and they should have our most careful consideration.

The prognosis in these cases is not so simple, for this involves an inquiry into the causes, and some experience in the various methods of special training. We must take into consideration the inherent possibilities of each individual child and determine what his mental capacity and capabilities would be in a suitable environment and under more favorable conditions.

The object of this paper is to consider to what extent a study of the speech of children will aid us in making the diagnosis of backwardness and, more especially, in venturing on a prognosis. It may be said, without fear of contradiction, that freedom of speech is an absolute essential to the normal development of children and that any defect of speech, however slight, must make its impress on the child's mentality and prevent him from doing all that he would otherwise be capable of doing.

Not all children with defective speech, however, are thus prevented from keeping abreast of their fellows in school. Occasionally we find one with sufficient concentration and will-power to succeed, in spite of the handicap which defective speech must entail, but this is the exception and not the rule.

Speech is a tool of the mind and just as the artisan is dependent on good tools for success in his work, so is the child dependent on good speech for the normal development of his mental faculties; and just as a poor tool may be responsible for faulty work, so is defective speech oftentimes the cause of slow development or backwardness in children. Many illustrations of this fact might be given. One or two will be sufficient to emphasize its importance.

In 1895, a young man, 19 years of age, was brought to my office for a prognosis, the diagnosis made by his family physician being imbecility. He had many symptoms of this disease. He was backward in his studies, so much so that school had to be entirely given up. He could not speak, read or write intelligibly, and he was unable to spell the simplest words. His expression was vacant and staring. His lower jaw was receding and his mouth open. He was exceedingly awkward in his movements and unable to express himself in any language. His speech was wholly unintelligible. He could not give his name or his residence, and he was unable to make the conductor of the railway train understand at which station he wished to get off.

The prognosis in this case could not be made offhand. It was of the utmost importance, because on it depended the treatment and the patient's future usefulness. After careful investigation, it was discovered that one great barrier in the way of mental development was the lack of power of expression and it was manifest that until the faculty of speech could be established the man could never become a useful citizen. On the other hand, it was assumed that if the faculty of speech could be acquired, the mere effort necessary to its acquisition would serve to develop some degree of mental power. The question therefore arose as to what was the cause of the tardy development of speech. On examination it was found that the patient had a defective tongue. The genio-hyoglossus muscle was too short and bound the tongue down to the floor of the mouth and thus prevented its normal action in the processes of articulation. A simple operation was performed, which consisted in a division of some of the anterior fibers of this muscle, thereby giving a free tip to the tongue. The operation was followed by a systematic course of training for the purpose of teaching the use of the tongue and the related organs in processes of speech. A little more than a year sufficed to accomplish this result and the boy who, up to 19 years of age, was supposed to be an imbecile, is now one of the most successful real estate brokers in Philadelphia.

This case is illustrative of a large class of children who are backward, not because of any organic mental deficiency, but because they are lacking in the power of an easy and natural expression of their thoughts.

Another case was that of a lad brought to my clinic at the age of 15 because his speech was unintelligible and he was backward in his studies. Unlike the former case, however, he was able to make some progress in certain lines of school work and presented an appearance of one having greater intelligence. He had a distinct vocabulary of sounds of his own unlike any I have ever heard and it was by no means limited. He could talk and read fluently, but it was all a meaningless jumble to everyone but himself and he claimed that the substitutes he used sounded to him the same as the actual words spoken by his fellows. In other words, his ear did not discriminate between his own jargon and the normal speech of other people. He was not a

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robust boy. In early childhood he had some organic heart affection. He was a "blue" baby, had spasms and some difficulty in respiration. He also had web fingers on both hands, indicating arrested prenatal development.

This boy was backward merely because he could not speak intelligibly; because he was unable to command that important tool of the intellect, language. A few years of speech training, however, resulted in a complete change in his mental and physical processes and he is now holding an important office position in one of the departments of the University of Pennsylvania.

Many other similarly interesting cases have come under my observation, but the above two will suffice to illustrate the importance of speech as a factor in the diagnosis and prognosis of backwardness in children, and from the history of their cases we may draw the following conclusions:

1. It is not always possible to determine at a glance the cause of backwardness in children.

2. Backwardness in children is not always due to a central lesion, but may be the result of arrested cerebral development due to some abnormality of structure in the peripheral organs.

3. A very common cause of backwardness in children may be some abnormality of structure in the peripheral organs of speech.

4. So closely are the speech centers related to the ideational centers of the brain that any impairment of the one generally results in a corresponding impairment of the other.

5. The best method of arriving at even a proximately correct prognosis in cases of backward children is to apply the speech test, or, in other words, to ascertain by careful study and experiment to what extent the faculty of speech may be improved, and it will be found that in those who are susceptible to training in what may be called the refinements of speech are the ones for whom we may promise the best results, and that possibilities for general development will be proportional to the capacity for speech development.

A PLEA FOR THE BACKWARD CHILD.*

C. F. WAHRER, M.D.

FORT MADISON, IOWA.

Before treating this subject in any detail, I wish to define the term "backward child." By this I do not mean a defective child, but one whose body, as well as intellectual faculties, are all in existence, and whose parentage is not of a degenerate character, but normal, as we generally understand the term. The line between normal and abnormal may be somewhat hazy, not well defined, nor perhaps capable of exact definition, but we all somehow have a very fair conception of the expression, unless we appear as experts in a will case in court. Yet if we remember our experiences in the school room as teachers or even as fellow pupils, or make observations in schools as visitors, we do not always have this same opinion, as to the brightness or dulness exhibited by various children. Thus many a child, somewhat backward in its studies, has been condemned as a dunce or even defective, by the too hasty observer, and, in the class under discussion, all on account of a lack of perception on the part of the teacher or parent making this unfair and unjust deduction.

The fallacy of observation is due to contrast; this I wish to explain, and show that comparisons in these cases, as the old adage says, are odious. The comparison is with the so-called bright or forward child. By observation we have learned to expect a certain amount of physical and mental development from a child at a given age. If the child is unusually observant, with a good memory and the power of expression, it is called bright or even precocious, and, in comparison with such children, all others seem more or less dull. Where advancement is normal, we call such children normal or average and even recognize good minds. Where, however, the expected progress is slow, comprehension more or less obtuse, and the power of expression limited, we say such children are backward, dull, or even may imagine them defective. All this is a matter of comparison, with the bright child as our model.

The truth is, there is nothing wrong with the child. He has good powers that are latent or of slow development, or is really developing in a direction different from the course intended.

For instance, a morning-glory vine twines around its support from right to left, while the hop vine twines in the opposite direction. Both are correct, and it is just as useless an effort to reverse these directions, and serves as little good purpose, as it is to make these so-called backward children follow the course of the so-called bright child.

An astronomer should not be deceived by a meteor with all its brightness and brilliancy, and make invidious comparison to the disadvantage of the pale, far-distant, fixed star, which upon study proves to be not only a sun but a whole solar system; so in like manner, we should not, after observing a bright child with good memory but of ephemeral mental development, underrate the slower, dull pupil, whose mind powers are latent, not absent and in the process of a splendid development if rightly studied, and when once made manifest, show an intellect as strong and unwavering as the fixed star.

Great men, like Shakespere, Sir Walter Scott, Edison, Beecher, Peter Cooper and many more, were condemned by their teachers and proclaimed hopeless dunces and their parents were beseeched to take them from school, as it was considered a waste of time and money to keep them there. Milton, one of the greatest poets of the theological school, was 63 years of age before he became known; according to his own saying, he appeared late, but when he did appear he was fit to do so.

While these backward children are not favorites with the average educator, it should be a teacher's duty and pride to search for the hidden talents lying dormant among children of most unprepossessing appearance. Examinations, or tests, as they are more recently called, intended for this purpose, are most dismal failures in this direction, for they reveal not the intellect or the slumbering genius, but only what a child with a good memory has stored from recently gathered facts. And let a happy manner of good expression be added and this child shows to splendid advantage over its fellows. So these tests are not tests after all, only deceptive surface phenomena, with their usual exceptions.

Neither are the cumbersome and high-pressure curricula of our schools, with their many anachronistic arrangements, calculated to advance the subjects of our contention, nor to evolve acuteness and dispatch

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out of obtuseness and retarded progression; nor are they in any way the least helpful in developing latent or slumbering powers. The adult life is strenuous enough without introducing this strenuous element into all phases of pre-adolescent childhood. In this line we need revision with a special view to simplification rather than complexity, and the arrangement of studies synchronous to mind capacity. But how can we maintain such a statement? Simply by past experiences, from which there are an endless number to draw.

For instance, these bright boys and girls who were such splendid reciters, and who graduated at the head of their classes, who furnished valedictorians and salutatorians, what has become of them? Did they become the traditional president or governor, the judge on the bench, the bishop or the eminent medical man or surgeon, master mechanic, the great commander? No, they did not! When the evanescent spark of genius first attracted our attention and its meteoric rays dazzled our eyes, we little dreamed that it was only an explosion, a big sound, a flash across the intellectual sky, and all was dark. But the steady glow of a slow but ponderous mind, groping about in the dark, as it were, to get recognition by its own light, to develop by its own evolution, may be long in accomplishing it, but when once known will make its influence felt long after the meteor has passed away and is forgotten.

The brightest diamond in the hands of a bungler becomes a mere mass of useless carbon; in the hands of a master, a diadem fit to adorn the crown of kings. So a really valuable but apparently dull mind in the hands of a superficial educator becomes a useless cumberer in the ranks of life, while under the guidance of a superior intellect, that has discovered under the seemingly unprepossessing exterior a true gem, it is so developed and its course so shaped as to evolve a mind fit to reign among the earth's greatest and best.

The responsibility of educators and parents is immeasurable, viewed in this light. To discover and guide the backward child is the duty of the hour, not to condemn and forever destroy. Our sympathies and warmest endeavors should be invoked by every child that belongs to this category, and every effort should be put forth in behalf of a class, out of whose ranks the earth's greatest geniuses have arisen and led the children of men out of the wilderness of thought into the Canaan of light and bliss.

With Gray we can say:

> Perhaps in this neglected spot is laid,
> Some heart once pregnant with celestial fire;
> Hands that the rod of empire might have swayed,
> Or waked to ecstacy the living lyre.

So it is not how early, but how well, a given person develops; not how soon he accomplishes his life work, but how effective are its results, and how great a factor it may be in the sum of existence. In this sense, it is never too late when a great mind makes its appearance. For,

> "Nothing is too late
> Till the tired heart shall cease to palpitate.
> Cato learned Greek at eighty; Sophocles
> Wrote his grand Oedipus, and Simonides
> Bore off the prize of verse from his compeers,
> When each had numbered more than four-score years,
> And Theophrastus at four-score and ten
> Had but begun his "Characters of Men";
> Chaucer at Woodstock with the nightingales,
> At sixty wrote the "Canterbury Tales";
> Goethe at Weimar toiling to the last
> Completed "Faust" when eighty years were past.
> These are indeed exceptions, but they show
> How far the gulf-stream of our youth may flow
> Into the arctic regions of our lives."

I crave a greater sympathy for the "backward child."

This symposium will be completed next week, together with the discussion.

SECTION OF OPHTHALMOLOGY.

ADDRESS OF CHAIRMAN DELIVERED AT THE FIFTY-SECOND ANNUAL MEETING OF THE A. M. A., HELD AT ST. PAUL, MINN., JUNE 4-7, 1901.

J. A. LIPPINCOTT, M.D.
PITTSBURG, PA.

The precedent established by my honored predecessors of dispensing with a review of the progress in ophthalmology is, in my judgment, a wise one. Even were one disposed to think differently, this would not be an opportune time to attempt such a résumé. For, standing as we do on the threshold of a new century, it would be incumbent on the reviewer to take note not only of the changes of a year but of the advances made in our department of medical science during the hundred years which have just passed into history. During that period thousands of distinguished workers have co-operated in building the imposing structure constituted by the ophthalmology of to-day; and of these thousands there are three to whose achievements alone many volumes of addresses might be devoted without doing justice to the theme. The names of Von Graefe, Donders and Helmholtz will be gratefully remembered long after those of their most noted contemporaries in the spheres of war and statesmanship, the favorite avenues to distinction, shall have been relegated to oblivion.

To one of this mighty triumvirate we owe the priceless gift of the ophthalmoscope which has so marvelously enriched our knowledge and added to our power to benefit mankind. This instrument has now seen fifty years of ever-increasing usefulness, a fact which is fittingly emphasized in our program and in the interesting collection of ophthalmoscopes and ophthalmoscopic literature which, through the efforts of the committee appointed for the purpose, is open for your inspection.

Other subjects to engage your attention are the methods of treatment applicable to the abnormal conditions of the extrinsic ocular muscles comprised under the terms strabismus and heterophoria—conditions which, despite all that has been written upon them, are still in many points obscure.

We shall also discuss the important problems presented by the relation of visual acuity to occupation in general and to the railway service in particular. An effort to elucidate these problems may fairly be expected of this Section, which, as a subdivision of the American Medical Association, is peculiarly representative and National in character.

In addition to these subjects we shall have the opportunity of considering a topic on which much light has been thrown by recent investigations, namely, the nature of the pathological changes produced by certain toxic agents in the retinal elements.

I need not refer specifically to other portions of the program, which is replete with variety and interest, notwithstanding the rule adopted for this meeting by the General Committee of the Association restricting the number of papers presented in each Section to thirty-five. Owing to this rule a number of meritorious articles had to be excluded. In this connection it may be

remarked that many of the difficulties of your officers, especially the Secretary, might be obviated if all abstracts were handed in as early as possible. You are aware of the regulation requiring the completed program to be at the office of the general secretary in Chicago not later than May 4. It will be necessary to send it several days earlier if, as seems desirable, the Secretary of the Section is to have an opportunity to examine the proof. As a matter of fact all of the abstracts ought to be in the hands of our Secretary on or before the middle of April.

Inasmuch as the number of papers is now so limited it is highly important that as few as may be shall be "read by title." Those, therefore, who, after sending titles or abstracts, find that they can not attend the meeting should, when they can, notify the Secretary of this fact in time to permit their places on the program to be taken by others.

Allusion has been made to the wonderful development of ophthalmology during the 19th century. This development has in no inconsiderable degree been aided by the labors of our own countrymen, among the most conspicuous of whom was one who has dropped out of the ranks since our last meeting. Henry D. Noyes as a teacher was erudite without dulness, as a writer prolific without being prolix, frank and incisive in debate without ever violating the laws of courtesy—a commanding figure in any assemblage and in private life a charming companion. He and others have made the past century notable. What are we to expect of the present? Let us be stimulated by the hope and belief that the mantles "of the great ones gone forever and forever by" shall fall upon shoulders not unworthy to wear them and that "the glowing pages of the past may be taken as the sibylline leaves of the future."

LATE IMPLANTING OF GLASS BALL IN ORBIT, AND EPITHELIAL LIP GRAFTS TRANSPLANTED TO ORBIT.*

ADELINE E. PORTMAN, M.D.

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WASHINGTON, D. C.

The late implanting of a glass ball in the orbit is not a new operation; L. Webster Fox of Philadelphia, and many others in other cities, have succeeded well in this line, but the operation had not been done before in Washington, D. C., and there is a feature in this I do not find in others, namely, the fastening together of the cut ends of the recti muscles over the glass ball. My first case of the kind was this:

W. C., white, aged 50, English birth, a farm laborer, received traumatism to cornea, which became infected. Several cultures were made at different times from the discharge, but were negative in results. Complete destruction of cornea ensued from neglected condition, the patient attending the clinic at intervals of a week or ten days only.

In June, 1899, the atrophied globe was removed from left orbit by Dr. Burnett, no attention being paid to the cut ends of the ocular muscles; they simply collapsed, forming with the other tissues a thick cicatrix in the bottom of the orbit, and a great amount of shrinking left a most unsightly cavity. The patient had asked to have an eye shell furnished to replace the diseased globe, before he would consent to have it removed, as his personal appearance was of great moment to himself. One large enough to in any way fill the lids was most unpleasantly staring and disagreeable in appearance; so he came back several times to repeat his request for "one that would move." That, he was told, could not be done; but still he kept coming, until one day I told him that by putting a glass ball into the orbit, it might possibly move a little. He was delighted with the idea and wished at once to make an appointment for the operation. Dr. Burnett, chief of eye and ear clinic of Emergency Hospital, consented to its being done, and kindly assisted in the work.

My operation was the following: The bottom of the cavity was opened; the conjunctiva was raised all around from the surface; the scar tissue was so far as possible removed. The cut ends of the recti muscles were carefully dissected up, and as each one was found, a suture of black silk was passed through the cut end, and it held to one side; the cavity underneath was made large enough to easily hold a large-sized glass ball. After bleeding had stopped, the opposing muscles were brought together and firmly tied over the ball, first the vertical, then the horizontal, the two knots beside each other, after which the sutures were cut short off and were never removed. The conjunctiva was closed over all with five sutures, and the ordinary enucleation dressing applied.

Reaction was very marked in this case. There was much swelling, discoloration, and oozing of fluid, enough to keep dressings wet for three or four days. The last sutures were removed from the conjunctiva twelve days after operation, and a shell was placed in twenty-four days later. To the delight of the patient, to the surprise of all who saw it, and to my great relief, it did move, making fully one-third of the excursion of the other eye.

After a few months a larger shell was used, as the tissues became shrunken, but still giving satisfactory motion instead of an immovable stare. Patient has been doing farm work of all sorts for fourteen months and ball has caused no discomfort, remaining firmly in place.

EPITHELIAL LIP GRAFTS.

Case No. 2.—K. McG., white, Irish born, aged 38, wife of laborer. In heating a tightly-closed can of coffee for husband's supper at midnight, the overheated can exploded, the stream of boiling fluid striking directly in the eye, scalding whole side of face and neck severely. The cornea sloughed off completely, the lids already badly scarred by old trachoma, contracted so much as to show the hollow behind them, making a most ghastly appearance. After the removal of atrophied globe (which was always painful) in June, 1899, Dr. Burnett did an operation in March of 1900, on the orbit, for replacing mucous membrane with skin taken from the inside of the upper arm, where it is thinnest and most pliant; they adhered only in what had been the upper ocular surface, while the lower lid was still everted, and contraction so great that the smallest shell could not be kept in place.

In September, 1900, with the assistance of Dr. Reeve, I removed the cicatricial tissue as much as possible, made the cavity fit a shell large enough to look well; I replaced the mucous membrane with epithelial lip grafts, taken from the inner side of under lip, by means of a cataract knife, without the clamp. The several strips were placed carefully over the denuded surface of lid and base of orbit, the shell put in place to keep them from moving, the lids drawn over and firmly bound up to prevent all motion possible. The lids came together easily and naturally.

* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee of the Section: Drs. J. A. Lippincott, Casey A. Wood and H. V. Würdemann.

This was done on Monday; the patient returned on Thursday to have the dressings changed. There was not the slightest discharge of pus from the cavity, the mucous membrane having the appearance of always having lived there; it was redressed the same as before. On Friday the patient, to have her children go to school clean, did some washing of their clothes, which from the motion partly displaced one of the strips, and on Monday the loose end was cut off.

She wore the shell night and day for two months, removing once a day to cleanse the orbit. It was then replaced by a larger one; for she came back with the long axis placed vertically, it having dropped out when left in the correct position. A much larger shell was then used, the lids closing easily over it. She does the housework for a family of seven, and still wears it with comfort. The epithelium from the skin placed in the orbit causes the most of the difficulty of cleanliness.

SEPTEMBER 3, 1901.—This patient still wears the same shell with perfect ease at the present time, one year after the operation.

Clinical Report.

CASE OF PRIMARY SYPHILITIC LESION OF THE FAUCIAL TONSIL.

GEORGE C. STOUT, M.D.
PHILADELPHIA.

The patient, a young lady, unmarried, of good family history, and apparently of good moral character, was referred to me on Sept. 18, 1900, by my friend, Dr. E. K. Perrin.

Her physician stated that she had had an obstinate "sore throat," for which he had administered the usual remedies for follicular tonsillitis, during the past week, with the result that the condition was increasing in severity rather than improving.

The patient dated the onset of her trouble five weeks prior to my examination. She said that she had then taken a surf bath while unwell, from which she caught a severe cold, with headache and muscle pains which lasted for about three weeks, when it "all seemed to settle in her throat."

For a week past she had been unable to swallow any solid food, and could take liquid nourishment only with the greatest difficulty, and for the past two days was unable to take any nourishment whatever, on account of the excessive pain during the effort to swallow.

She had been able to sleep but little during the last two weeks, and although she had been a healthy, robust girl a few weeks ago, she was now the picture of physical distress.

Her color was pale and her expression anxious. Examination of the fauces disclosed very large tonsils, which were congested and angry. The right side was the larger; it was ragged and upon its surface was an ulcer extending from pillar to pillar. This ulcer was nearly level with the surface, and was covered with a thick, grayish membrane, for which there was little secretion.

The left tonsil was swollen and its crypts contained the yellowish detritus so often seen in sluggish tonsils. The pain upon pressure seemed to involve the surrounding parts, as well as the tonsils themselves.

For the three days following her first visit her temperature varied from 99.2 to 100 in the mornings, and from 100.2 to 102 in the evenings. At the first visit she was treated tentatively, her throat being thoroughly cleansed, and a 15 per cent. solution of nitrate of silver was applied to the ulcerated surface; there was no improvement from this treatment, or from the home treatment prescribed.

Upon her second visit, a rash, which was but faintly visible at the first visit, was very evident over her forehead, body and limbs, and the specific nature of the disease was suspected, especially as there was some enlargement of the right cervical glands. She was then placed on 40 grs. of potassium iodid daily and a solution of 1 to 1000 bichlorid was applied to her throat. She had great difficulty in swallowing the iodid solution, but there was some improvement in her condition after this treatment.

On September 24, as the diagnosis was fairly certain, she was given ½ gr. of bichlorid of mercury, hypodermically, and 40 grs. of the iodid daily.

Two days later there was a decided improvement in her general condition; the eruption on her body and face had dried up for the most part, and her throat was so much improved that she was able to eat a soft-boiled egg, which was the first food, excepting milk, she had been able to swallow for three weeks.

On September 29, she was given another hypodermic of bichlorid (gr. ¾), and by October 1 the ulceration on the tonsil had disappeared, and while her tonsils were somewhat enlarged her throat no longer annoyed her, and she was able to sleep through the night and take proper nourishment.

On account of the evident innocence of the patient, and in deference to her surroundings, it was thought unwise to question her as to the possible source of contagion. Her physician, who had known her for some years, feared that she might do herself some personal violence if she suspected the true nature of her trouble, therefore, in the absence of a definite history, it was thought well to confirm the diagnosis by the therapeutic test.

When her condition was nearly normal and she was able to sleep and take proper nourishment, the anti-syphilitic treatment was withdrawn (October 10), and she was simply kept under observation.

In two weeks' time, after she had remained away several consecutive days, against our advice, the skin lesions had broken out anew, over her whole body, and two mucous patches were found on her right tonsil, and three on the left; the appearance of the throat, however, being entirely different from that of the first visit. The hypodermic injections were then renewed in large doses (½ gr.), and 30 grs. of the iodid were given daily.

As all visible lesions improved within a week, and have now nearly disappeared, the diagnosis is confirmed, and the future course of treatment is determined. While the cause of the infection could not be positively determined in this case, the circumstantial evidence all pointed to an innocent inoculation, probably from the caresses of one who had secondary lesions in his mouth. The stratified squamous epithelium which lines the mouth and fauces affords excellent protection against germs entering the system at these points. The ragged hypertrophied tonsil in this case rendered the fauces more vulnerable; the cells lining the tonsil crypts were probably soaked by cheesy detritus and desquamated by hawking and "clearing the throat," thus exposing the underlying structures and affording an excellent soil for the virulent specific germs.

The case above related occurred in the right tonsil, which is the more commonly affected in these conditions. There have been more cases reported of chancre of the tonsil in men than in women.

Sex Determination from a New Point of View.—Flammarion has been studying, since 1894, the action of the solar rays on the life of plants and animals. He announced at a recent meeting of the Paris Académie des Sciences that he had found the normal proportion of males born among silk-worms was very much increased if the worms were kept in darkness or under dark-colored glass. Under light-colored glass the normal proportion of 50 per cent. was maintained, but under dark-colored glass the proportion increased to 68 per cent. He also found that the proportion of males was increased still higher if the worms were insufficiently fed. Even under light-colored glass, on insufficient food the males averaged 78 per cent. He queries whether this latter fact may not indicate that the effect of the dark-colored glass is merely to diminish the appetite and thus cause insufficient alimentation.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

61 Market Street : : Chicago, Ill.

Cable Address: "Medic, Chicago"

Subscription price: Five dollars per annum in advance

SATURDAY, OCTOBER 12, 1901.

THE PREVENTION OF THE SPREAD OF PULMONARY TUBERCULOSIS.

The demonstration by Flügge and his pupils in Breslau, and also by others, that tubercle bacilli are disseminated in fine sputum particles during the talking, coughing and sneezing of phthisical patients and the fact that guinea-pigs may be rendered tuberculous by exposing them to the coughing of the consumptive, have led to the belief that the dissemination and inhalation of droplets of sputum laden with bacilli may be one of the most important methods of spreading pulmonary tuberculosis. Of course the same method undoubtedly obtains in other diseases also, such as leprosy, influenza, the pulmonary form of pest, etc. Recently several new investigations along these lines, but with the special object of teaching us something practical with respect to the prevention of tuberculosis, have been published from Flügge's laboratory.[1] Investigation by Heymann has shown that the dust which results from dried sputum is comparatively coarse, and for that reason endowed with a rather brief infectivity, the most dangerous because lightest and therefore carried the furthest being shreds and threads of handkerchiefs and cloths, especially when moistened with only small quantities of sputum. Naturally handkerchiefs should be disinfected frequently, say after being used twenty-four hours. Paper handkerchiefs, which can be burned when used, are especially recommended. In Cornet's celebrated investigations concerning tubercle bacilli in the dust of rooms occupied by consumptives the material was gathered by means of moist sponges, which would take up adherent masses of sputum that had been deposited directly and not by transport in the air. Heymann's investigations indicate that even in neglected consumptives' quarters the dust that forms is not at all everywhere infective and that when gathered by means of wet sponges a much larger proportion of the guinea-pigs injected become tuberculous than when swept together with a fine dry brush. But in factories, railway carriages and street cars the shaking might set in motion even the larger particles, and new researches are planned to cover the special conditions here found.

The Breslau investigators formulate the rule that during coughing the consumptive should be at least arm's length removed from other persons and he should hold his handkerchief before his mouth. In offices and working rooms the distance between the heads of the occupants should be at least one meter. This rule is based upon actual demonstrations of the dissemination of bacilli-laden particles during coughing. And after coughing it does not seem that the particles settle immediately, but may remain floating for some minutes at least. Plates exposed to the spray from coughing were found sterile after three days when kept in the light, but contained virulent tubercle bacilli even after eighteen days when kept in the dark, thus showing again the bactericidal action of light. While there seems to be no question but that masses of bacteria are hurled out from the mouth especially in coughing, yet it might be doubted that such bacteria are actually inhaled by persons standing about naturally. Nenninger, however, found prodigiosus bacilli in the basal parts of the lungs of guinea-pigs subjected for half an hour to an atmosphere into which a spray of a suspension of this bacillus had been thrown. This demonstration would seem to throw doubt upon the generally accepted statement that the normal lung as a rule is free from bacteria. And the important bearing of these various observations upon autoinfection of consumptives should not be lost sight of.

The points briefly touched upon may serve to indicate that much, very much is to be accomplished for the prevention of tuberculosis by following the indications that are derived from careful, experimental and other studies of the dangers associated with the sputum, both moist and dry. The people in general must be educated and instructed in these facts and their significance. As long as we have such a rich chance to attack the bacillus of tuberculosis directly let us not seek rest from the great responsibility in vague theorizations concerning special disposition of tuberculosis, etc. In the larger cities of this country much is being done to lessen the manifest evils of promiscuous expectoration. Attention must now be paid to what may be called the hygiene of coughing.

1. Zeitschr. f. Hyg. u. Infektionskr., 1901, xxxviii, Ht. 1.

THE INFREQUENCY OF PRIMARY MALIGNANT TUMORS OF MIXED TYPES AND ITS BEARING ON THE CANCER QUESTION.

The many recent and valuable discussions of the cancer question, notably Senn's comprehensive review in a late number of this journal, Park's exposition of the parasitic theory in THE JOURNAL,[1] and C. P. White's[2] amplification of Ribbert's theory of tissue tension, omit one important feature in the biology of malignant tumors, namely, the rarity with which the epithelial and mesoblastic types of malignant growths occur together. This fact, however, is of much importance. In his report of a primary tumor in the thyroid gland of a dog, which was composed of an intimate admixture of the two types, H. G. Wells[3] states that his search of the literature revealed but seventeen cases in which it was demonstrated with reasonable accuracy that a single individual presented simultaneously an independent carcinoma and

1. September 14.
2. Jour. Path. and Bact., 1901, vii, 339.
3. Ibid., p. 356.

an independent sarcoma. This does not tend to support the assumption of White that the general condition of the patient is of importance in determining that local disturbance of equilibrium, which he argues would lead to tumor growth; for, if any general condition were responsible it would be reasonable to look for a much greater frequency of multiple malignant tumors. Wells found further only three cases in which it appeared probable that a primary tumor consisted of both sarcomatous and carcinomatous elements, and in all three the site was the thyroid gland. In one of these cases some of the secondary growths were purely sarcomatous, some purely carcinomatous, and some resembled the primary tumor in containing both types of tumor.

From the point of Cohnheim's theory we are justified in the expectation that mixed tumors would be frequent, perhaps the rule, because most of the "embryonal matrices," containing epithelial cells, also have a fibrous framework; yet the stroma of adrenal tumors, arising from misplaced adrenal tissue in the kidney, has not been found to assume sarcomatous appearances. Perhaps the renal tumors of mixed structure, the so-called embryonal adeno-sarcomas of the kidney, which contain not only epithelial and connective tissue elements, but also muscle fibers, might be cited as an exception to this statement. Embryonal adeno-sarcoma of the kidney, however, owes its malignancy wholly to the sarcomatous portions, the epithelium never taking on malignant, infiltrating properties. These tumors demonstrate that all of the structures of the fetal kidney may develop simultaneously into tumor, but epithelium and stroma do not become malignant at the same time.

Turning now to the parasitic theory of tumors, we find that, no matter what the nature of the parasite is thought to be, whether protozoic or vegetable, the ideas vary as to the way in which the parasites operate; because some investigators hold that carcinoma and sarcoma are due to a single organism, which causes a carcinoma when infecting epithelium and a sarcoma when infecting connective tissue, while others think that the organism of sarcoma is different from that of carcinoma though the two may be closely related. Now if the same organism were capable of causing carcinoma and sarcoma it would be reasonable to expect that it would frequently set up proliferation in both tissues at the same time and that mixed sarcoma and carcinoma would be common, which is contrary to fact. If the organism of carcinoma is different from that of sarcoma, single tumors would be the rule. Of course mixed infection with the hypothetic organisms might occur, either from the beginning, or from the implantation of one upon the other as is the usual order of things in mixed infections with ordinary pathogenic parasites. This idea agrees better, therefore, with the comparative rarity of mixed malignant tumors.

The question of cellular specificity may be referred to also in connection with this matter. If each cell did not produce its own kind mixed tumors of malignant character should be common. The infrequency of such growths bears out the doctrine of the specificness of the cells. In the case described by Wells he found no evidence of the transformation of epithelium into sarcoma cells, or conversely.

MEDICAL ORGANIZATION AND THE PUBLIC.

The objects of organization of the medical profession are not selfish ones. While some of these objects look to the well-being or the material interests of the profession in many ways, there are others which are for the good of the people also. The fight to be waged against quackery, charlatanry and pretenders, and for better education and higher standards of qualifications for entrance into the profession, itself, is not with the idea of simply bettering that profession, but for the protection of the people as well. Some of the objects to be obtained by organization are of direct advantage to the people and not even indirectly to the profession. Some of these are better sanitary laws, legislation for the prevention of disease, for the control of epidemics, and for the "enlightening and directing public opinion in regard to the broad problems of state medicine." The profession has nothing to hide or to be ashamed of in this work of organization, but, on the contrary, everything to be proud of and to willingly submit openly, candidly and freely to an intelligent public.

It is most gratifying to find in one of the solid monthly magazines[1] an article in which the objects of organization and the plans on which organization is to be effected, are elaborated. It is especially gratifying because the magazine in question admits to its pages only articles of merit and on important topics. It is written by Dr. P. Maxwell Foshay, of Cleveland, who was one of the members of the Committee on Reorganization of the American Medical Association, and who is now Secretary of the Ohio State Medical Society and doing effective work in organizing his state on the plan outlined.

In this article he shows that the attitude of medicine toward the world is very different from that obtained when medicine was encumbered by superstition, ignorance and charlatanry, much of which has been swept away by the recent developments of rational medicine. The ideal of modern medicine is the prevention of disease, and it therefore follows that the profession desires to be understood and be aided by an enlightened public intelligence. He calls attention to the new school of medicine as described by Dr. Reed in his presidential address at St. Paul, refers to the report adopted at the last meeting of the American Medical Association, and outlines the general scheme of organization. Such contributions read by an intelligent laity can not but help in the great work. We wish we might see more of such articles and on topics that are now discussed only

1. The Organization of the Medical Profession: The Forum, October, pp. 166-171.

in medical journals, but which, if presented in the lay journals in an intelligent manner and by the right men, would be the means of making the profession less misunderstood than is now the case.

THE TRAINED NURSE AND HER POSITION.

Dr. Malcolm Morris used to call the trained nurse a parasite upon the medical profession. The usual idea conveyed by this term is hardly the one he intended. What he meant was that her position is, what she sometimes forgets, a purely ancillary one and that her useful existence is dependent upon the medical profession. It is hard, however, for any of us to be duly humble; the trained nurse is as liable to have her conceit enlarged as anyone, and, under the adulation she receives, perhaps more than some. A very useful class of persons as a whole may, therefore, produce specimens that remind one of the objectionable kind of parasites that bite their hosts and benefactors. One is reminded of this by a recent address given before a nurses' convention, in which the speaker, a hospital head nurse or superintendent, after reviewing some well-known defects of political hospital management, for which, in spite of what appears to be the implication, the medical profession can not be held to be generally or largely responsible, she indulged in certain disparaging remarks and insinuations against physicians. She expressed, for example, a belief that the objections to the dispensary abuse only comes from men who are incompetent and lazy, and reiterated the venerable chestnut that physicians are by nature and training unfit for administrative duties.

As this is the main argument of those who keep up the real abuses she mentioned, her good judgment or her sincerity seems questionable. Her views, it is said, were shared and endorsed by others of her occupation, and, from the newspaper reports, the general temper of the convention seems to have been reflected by her remarks. It is unfortunate should nurses' organizations breed this sort of thing, and that those who ought to be a valuable assistance in the care of the afflicted should injure their usefulness by self-overvaluation.

Another instance of bumptiousness on the part of nurses, and one or two internes as well, is afforded by the very free criticisms of the medical treatment of our late President as reported in a Chicago paper. If they are not misquoted they were very free in their remarks, criticising the medical attendants of the late President both directly and by implication, the criticisms being such as might be expected from those whose limited knowledge qualified them in their own opinion to pass judgment upon men of national and cosmopolitan reputation. It apparently did not occur to them that as nurses and assistants there might be an impropriety in their expressing opinions from a distance on the surgical or medical treatment and that by leaders in the profession. The usefulness of the nurse is and always will be gauged by her faithfulness as a subordinate intelligently carrying out the directions of the physician, and it will be impaired or lost altogether if she indulges in public or even private criticisms of her professional superiors.

THE QUACKS OF BERLIN.

According to the *Medical Press and Circular,* the official records of the city of Berlin show that 60 per cent. of the quacks there prospering have been ordinary day-laborers before they blossomed out as professed benefactors of the afflicted, that only 40 per cent. have had an elementary common school education, and that of the female contingent about 58 per cent. have been servant girls. Nevertheless, it is probable that they have their share of the practice among the wealthy and *soi disant* cultured classes, and, as the irregulars here claim for themselves, "pull silver doorknobs" perhaps almost as much as better qualified practitioners. We conjecture this because human weakness is not a matter of national boundaries, and Germans are, according to our observations, no more sensible as regards medical impositions than other nationalities. Another interesting fact also related is that about 30 per cent. of the Berlin quacks have criminal records—we suppose this is apart from their medical careers—and yet they thrive.

LAY CONTROL OF CHARITIES.

The beauties of patronage and exclusive lay control are illustrated by a news item that comes to us from over the water. The Duchess of Sutherland it appears has established a home for crippled children, a useful charity over which she evidently retains the supervision. A staff of doctors have until lately given their attention to the medical needs of the inmates, but very recently the titled patroness or proprietor of the establishment has introduced an hereditary bonesetter to treat them. The medical staff naturally have objected, and what the result will be has not thus far been revealed. The Duchess is herself apparently so well satisfied with the bonesetter that she insists upon his retention, and doubtless, after the manner of the laity, considers the physicians altogether in the wrong for refusing to co-operate —if that is the word—with him. It would seem, aside from the professional point of view, that the opinion of some half dozen reputable, educated physicians, giving their services gratuitously, ought to count against that of a single uneducated manipulator, but that is apparently not the case. The medical and surgical treatment of the patients was, therefore, left to the bonesetter, whose skill and success where the doctors fail is vouched for by the Duchess. She will probably in the end come out a wiser woman, but in the meantime somebody is liable to suffer and she and her friends will only blame the doctors.

RELATION OF TAXATION TO TUBERCULOSIS.

A French physician has in a recent paper traced a direct connection between taxation and tuberculosis. He finds that the mortality from this cause is very much higher in France than in England, in spite of the climatic disadvantages of the latter country, which with its

damper and foggier seasons might be supposed to favor the disease. He accounts for the difference by the better nourishment of the Englishman. The Frenchman is handicapped by excessive taxation, which makes the cost of living high and restricts the poor to bad and insufficient food. In Paris the matter is made worse by the "octroi" laws which make living there much more costly than in its immediate suburbs. All this is due to the costly militarism of continental European states; it is a penalty they pay for distrusting and hating each other. When Great Britain in the early part of the last century suffered similarly from unwise and excessive taxation, with its corn laws and its window tax shutting out light and ventilation, its mortality was also high, and the improvement in public health has followed tax reform. While we can not get our statesmen to study medical and sanitary matters we should as a profession see that they do not sin ignorantly in these ways. There is hardly a question that arises in government or politics that has not a possible medical bearing or on which medical science can not throw some light. What we pay for lack of this can not be told, but it is surely often a heavy price and may entail disaster. Public medicine in this wider sense in its relations to economics, legislation, and the like, is a field that is well worth cultivation. At present its importance is too little appreciated by our lawmakers and it is our duty as a profession to do what is in our power to enlighten them.

THE QUESTION OF SPECIALIZATION BY UNDERGRADUATES.

The field of medical practice has grown so large that no ordinary person can successfully traverse it all. Specialization is thus the result of a naturally evolutionary process, tending to greater refinement and precision in knowledge, as well as in diagnosis and in treatment. To be a specialist of the highest type, however, one must have a broad and deep foundation in general knowledge. This, however, does not imply that a tendency to specialization should not be encouraged early, providing this is not done too exclusively or to the detriment of general training. The view of the specialist should be not less broad than that of the generalist, the only excuse for the existence of the former arising from the fact that in addition to his general knowledge and ability he possess some special knowledge and ability. If, therefore, the medical student, by means of personal preference, personal endowment, or personal opportunity, chooses to devote himself in later life to a special field of medical practice, we think he may wisely devote special attention, even during his medical or collegiate course, to studies in and collateral to that department, not neglecting, we repeat, faithful attention to the other departments. In general, however, it may be stated that it were better for the ordinary student to confine himself to the broader and more general education. Medicine is a somewhat indivisible entity, its subdivision into branches being rather factitious, and no person is a secure practitioner in any one of its parts who has not a fundamental familiarity with all of its parts; therefore, he will be the best specialist who has mastered well the general field of medicine.

Medical News.

CALIFORNIA.

Smallpox is still in evidence in Oakland. Three new cases were discovered on September 27.

Santa Ana Hospital.—A movement is well under way for the establishment of a cottage hospital at Santa Ana, to cost $10,000.

Doctors Must Register.—The Los Angeles city council passed an ordinance September 30, requiring all physicians and surgeons to register at the health office and present the certificate previously obtained from the State Board of Health.

French Hospital Training School.—The French Hospital Association, San Francisco, has approved the proposition to maintain a training school for female nurses with a maximum of 35. It also authorized the expenditure of $17,000 for additions and improvements to the hospital building.

GEORGIA.

The Medical College of Georgia, Augusta, held its seventieth annual opening exercises, October 1. Dr. James M. Hull made the introductory address.

Public Schools Closed.—On account of the prevalence of scarlet fever in Eatonton and in Putnam County, the public school has been closed for one month. The public shools of Rome have been ordered closed for two weeks on account of scarlet fever.

Personal.—Dr. Gustavus G. Roy, Atlanta, will spend the winter in Florida on account of ill health.——Dr. Charles H. Hall has been elected Chairman of the Macon Hospital Medical Board, vice Dr. William F. Holt, deceased.——Dr. Evan Park Howell, Atlanta, has been appointed assistant surgeon in the Army with the rank of first lieutenant. He is now in the Philippines.

ILLINOIS.

New Cottage Hospital.—The new addition to the Peoria Cottage Hospital will be opened for patients, November 1. The attending staff for the year consists of Dr. John D. Miller, president; Dr. Thomas M. McIlvaine, vice-president; Dr. Otho B. Will, secretary; Drs. Paul Dombrowski, Emerson M. Sutton, Robert W. Baker, Robert A. Hanna, Elmer M. Eckard, Frank B. Lucas, Oliver J. Roskoten, Sumner M. Miller, John C. Roberts and Harrison Steele.

Personal.—Dr. Frank R. Pitner, Clay City, who is in his ninetieth year and has been practicing medicine since 1839, has gone to California for the winter.—Dr. Samuel Moore, Danville, has moved to Jamesburg.——Dr. Fred W. Carman, Prophetstown, has sold his practice and will locate in Geneseo. ——Dr. Emma Morgan, Aledo, has opened an office in Rock Island.——Dr. E. L. Birch has resigned from the staff of the Illinois Eastern Hospital for the Insane and will locate in Robinson.——Dr. Henri S. Babcock, Jamesburg, has located in Danville.——Dr. Frank W. Goodell, Effingham, has been reappointed lecturer on anatomy at the College of Physicians and Surgeons, St. Louis.——Dr. J. A. Guertin, L'Erable, has moved to Clifton.

Chicago.

Dr. E. C. Dudley has resigned the chair of gynecology at Northwestern University Medical School.

Dr. Albert P. Ohlmacher has returned to Chicago and has succeeded to the chair of pathology in Northwestern University Medical School made vacant by the resignation of Dr. Gustav Fütterer.

St. Ann's Hospital for Consumptives.—The cornerstone of St. Ann's Hospital for the treatment of consumptives at North 48th avenue and Division street, will be laid by Bishop Muldoon, October 20. The fund thus far subscribed amounts to $23,118.

Mortality and Morbidity.—The mortality for the week ended October 5, was 419—an annual death rate of 12.41 per 1000. The Health Department still urges care in the use of hydrant water for drinking purposes, as the typhoid fever mortality continues abnormally high. There is a general increase of contagious diseases, but the type of all—and especially of scarlet fever—is mild and the mortality thus far is unusually low.

Cook County Hospital.—Drs. Arthur R. Edwards and James B. Herrick have resigned from the Executive Committee.

The president, Dr. Denslow Lewis, has appointed Dr. E. Fletcher Ingals to represent Rush Medical College, and Dr. Robert B. Preble to represent the Northwestern University Medical School. The Committee elected as chairman, Dr. William E. Quine, who appointed the following subcommittees: Clinical instruction, Drs. Baldwin and Webster; records, Preble and Lewis; morgue, MacKellar and Kearsley; admission and assignments of patients, Lewis and Swan; internes and nurses, Ingals and MacKellar; laboratory, Kearsley and Baldwin; the chairman, ex-officio member of all committees.

Resolutions in Memory of Dr. Jones.—The medical staff of St. Luke's Hospital, at a meeting held October 3, passed the following resolutions in memory of the late Dr. Samuel J. Jones: Resolved, That the medical staff of St. Luke's Hospital have heard with deep regret of the death of their confrère, Dr. Samuel J. Jones. They especially desire to acknowledge his long and faithful services to the Hospital, both as attending and consulting ophthalmic and aural surgeon, and to place on record their appreciation of his devotion to the best interests of the institution. Be it further resolved, That the members of the staff attend the funeral of Dr. Jones in a body, and that copies of these resolutions be forwarded to his nearest relative and supplied to the medical press.

INDIANA.

Smallpox in virulent form has broken out in Michigan City. Four cases had been reported up to October 3, with one death.

Anti-Expectoration in Logansport.—The city council passed an ordinance October 2, prohibiting expectorating on the sidewalks of the city.

Epworth Hospital.—The new Epworth Hospital, South Bend, was opened for patients October 7. It is a fireproof, three-story brick and stone building and was erected at a cost of about $70,000.

Personal.—Dr. James A. Turner, Martinsville, has moved to Nashville.——Dr. William E. Kessinger, Worthington, has returned to Sandborn.——Dr. Edwin M. Trook, Marion, now serving in the Philippines, has been promoted to captain and assistant surgeon, U. S. Volunteers.

Osteopaths to be Prosecuted.—The State Board of Medical Examination decided September 24 that all osteopaths who have not applied for licenses by November 1, or those who have applied and been refused licenses and are still practicing, will be prosecuted. The board granted licenses to twenty-nine osteopaths and refused five.

MAINE.

Bar Harbor Hospital trustees, at their annual meeting, decided to take steps to enlarge the hospital, and appointed Dr. R. S. Dorsett, pathologist.

Personal.—Dr. E. O. Challis has moved from Woodfords to Gorham.——Dr. Goodspeed has moved to Fairfield and will office with Dr. Ivory P. Tash.——Dr. Charles S. Knight, Bangor, has located in Woodfords.

New Licensees.—At a special session of the State Board of Examination and Registration, held in Portland, August 1, Dr. Robert Abbe, New York, and four other applicants passed their examination and were granted licenses.

MARYLAND.

Baltimore.

The College of Physicians and Surgeons opened September 30 with an introductory lecture by Prof. William F. Lockwood.

The new infectious diseases hospital will have four separate buildings; an administration building, one for scarlet fever, one for measles and the fourth for diphtheria.

Maryland Medical College.—Dr. W. McLean Yost has been appointed associate professor of materia medica and clinical diagnosis and Dr. P. Eugene Craig associate professor of diseases of children. This school is reported to have begun its its session with 106 matriculates.

Class Meetings.—The first weekly meeting of the fourth-year class of the Johns Hopkins Medical School was held at Dr. Osler's residence October 5. At these meetings, which were inaugurated by Dr. Osler, the members of the class report cases seen and studied in the hospital and patient department.

Woman's Medical College Changes.—The following changes have been made in the faculty of Woman's Medical College, Baltimore: Henry P. Hynson, Ph.G., has been elected to the chair of pharmacy, with H. A. B. Dunning, Ph.G., as assistant: Dr. Frances A. Carpenter has been appointed lecturer on embryology; Dr. W. S. Skillman, lecturer on diseases of the stomach; Dr. Louise Erich, lecturer on orthopedics, and Dr. Henry W. Kennard, demonstrator in anatomy.

City Hospital Staff Changes.—Drs. Louis Stick, Louis J. Rosenthal and Albert Conrey of the staff of the Baltimore City Hospital, have resigned on account of disagreement with the faculty of the College of Physicians and Surgeons, regarding the regulation of the hospital. Dr. F. M. Owens has been appointed resident physician; Drs. Frank T. Marr, J. C. Sullivan, H. B. Jester, and E. T. West, have been advanced, and Dr. W. E. Smith has been appointed a member of the house staff.

Personal.—Drs. Francis T. Miles and L. Wardlaw Miles have returned after spending several months in Europe.——Dr. John Ruhrah, who has been spending the last 18 months in special studies in Vienna, Berlin, Paris and London, has returned and will take part in the instruction at the College of Physicians and Surgeons this winter.——Dr. Henry B. Thomas has returned from the Blue Ridge Mountains.——Dr. Henry M. Hurd, Superintendent of the Johns Hopkins Hospital, has returned from a trip to Nova Scotia, Buffalo and the North.——Dr. A. V. Cherbonnier, U. S. Army, is convalescing at the Presbyterian Eye, Ear and Throat Hospital from an operation on his right eye.——Dr. J. A. Gale, Roanoke, Va., is at the Johns Hopkins Hospital with septic poisoning due to infection of the third finger of the left hand, while performing an operation about three months ago.——Dr. Osler during the summer visited Amsterdam and there ordered a large number of books, including some valuable editions of medical classics, for the library of the Medical and Chirurgical Faculty.

MASSACHUSETTS.

Dr. Octavius T. Howe, Lawrence, who has been district medical examiner for seventeen years, has resigned.

Diphtheria is increasing in Lowell to an alarming extent. Seven cases were reported to the health board, October 1.

The Albert Bowman Wood Surgery, which is to be erected at Memorial Hospital, Worcester, by Mrs. Wood, is to be a two-story building, 47 by 60 feet, with two operating rooms and all modern appliances. The building is to cost $20,000.

Personal.—Dr. T. H. Grady, Clinton, is about to locate at Maynard.——Dr. Joel Boyer, Oatdale, has moved to Easthampton.——Dr. J. Frank Hall, Lowell, has passed the Army Medical Board examination and has been commissioned first lieutenant and assistant surgeon, U. S. Army.——Dr. Hiram H. Burns, Athol, has sold his practice to Dr. Oliver A. T. Swain, Washington, D. C.

MICHIGAN.

Smallpox is reported from Shiawassee County. The patient is a school teacher who, although ill, continued to teach for several days.

Dr. Beverly D. Harison, Sault Ste. Marie, has been appointed a member of the State Board of Registration in medicine for a term of four years from October 1.

Personal.—Dr. Henry B. Landon, Bay City, has been reappointed a member of the State Medical Board.——Dr. A. A. Spoor has decided to locate in Bay Rapids.

New Medical Building.—The cornerstone of the new Medical building of the University of Michigan, Ann Arbor, will be laid October 15. Dr. John A. McCorkle, Brooklyn, of the class of 1873, will deliver the address.

MINNESOTA.

State Examination.—At the examination for license to practice medicine in the state, held in St. Paul, October 1, 2 and 3, 26 candidates appeared, 3 of whom were women.

Hospitals to be Built.—Building permits have been issued for the completion of the Swedish Hospital, Minneapolis, to cost $35,000, and for the third story of the contagious disease building at the Minneapolis City Hospital, to cost $5000.

Personal.—Dr. Paul D. Cook has been appointed assistant police surgeon of St. Paul, vice Dr. W. G. Richeson, term expired.——Dr. James P. Davis has moved from Millville to Kellogg.—Dr. H. C. Stuhr, St. Paul, has located in Crookston.

Diphtheria.—Health Commissioner Hall, of Minneapolis, blames the local profession for the fact that there are now 400 cases of diphtheria in the city. He says there are dozens of physicians who never send for culture tubes, and ignore the

law compelling them to report contagious cases. Malignant diphtheria is said to be raging north of Preston.

Smallpox and Vaccination.—At White Earth Reservation, no Indian is allowed to receive his fall payment until he has been vaccinated.——Strict quarantine is maintained at Mille Lacs by the Indian police.——Dr. Henry M. Bracken, Minneapolis, of the State Board of Health, says that it would be easy to stamp out contagious diseases if there were no railways. He has written to the State Superintendent of Public Instruction, remonstrating against his position that school authorities can not exclude from school children that have not been vaccinated unless an epidemic of smallpox is prevalent or threatened. He holds that there is practically an epidemic of smallpox in the state and that vaccination should be compulsory. He cites that 6288 cases of smallpox were reported up to August 12, since the disease appeared in the state, and that 122 new cases were reported during the last fortnight.

MISSOURI.

Personal.—Dr. P. H. Stultz, Cedar Canon, has located in Pawnee, Okla.——Dr. Owen P. Farrington has moved from Springfield to Louisiana.

Leper and Nurse Isolated.—Dong Gong, the Chinese leper, of St. Louis, and Dr. Louis Knapp, his volunteer nurse, have been installed in the isolated house built for them near the isolation hospital.

Scarlet fever is prevalent to an unprecedented extent in Kansas City, and the city physician, George O. Coffin, says physicians aid the spread of the disease by not reporting cases to the Health Department. He promises to have derelictions of this kind severely dealt with in the future.

MONTANA.

State Examination.—The State Board of Medical Examiners met at Helena, October 1 and 2, and examined 27 candidates, including one woman and two Chinamen.

Sanitary Rules.—The Fergus County Board of Health has adopted a sanitary code which provides for location and cleansing of vaults; disposal of offal; prohibition of sale of diseased food; compulsory vaccination of school children; closing and disinfection of schools when cases of infectious disease occur; report to the Board of cases of contagious diseases; prohibition of public funerals in case of contagious disease, and closure of schools during epidemics.

New Hospitals.—The National Croatian Society expects to build a hospital in Anaconda to cost $20,000. The society has 20,000 members in Montana.——St. Luke's Hospital, Livingston, will be opened November 1. The additions to St. John's Hospital, Helena, are nearly completed and it is expected that the institution will be ready to receive patients, November 1.——Helena architects have been invited to submit competitive plans for the new St. Peter's Hospital to be erected at a cost of $45,000.

NEW MEXICO.

St. Joseph's Hospital.—An institution fully equipped for the treatment of tuberculous invalids has been established at Silver City under the care of the Sisters of Mercy. Dr. Earl S. Bullock, formerly pathologist and physical diagnostician, U. S. General Hospital for Tuberculosis, Fort Bayard, is medical director, and the consulting physicians are Major Daniel M. Appel, Surgeon U. S. A., Commanding U. S. General Hospital, Fort Bayard, N. M., and Drs. Will T. Williams, E. L. Woods, and Samuel M. Lane, Silver City.

NEW JERSEY.

Passaic General Hospital.—Owing to the failure of the citizens of Passaic to come to the aid of the General Hospital Association, the hospital will be obliged to close Jan. 1, 1902. There are now nearly one hundred patients in the hospital, about two-thirds of whom are free.

Endorsement of State Board.—The State Board of Medical Examiners of Maine has recently followed Delaware and other states in endorsing the certificate of license issued by the New Jersey Board. The effort of the New Jersey Board to extend the limits of interstate reciprocity is meeting with appreciation.

September Examination.—At the September examination of the State Board of Medical Examiners 35 candidates were examined, of whom 8 were rejected, making the percentage of rejections 22.8. Dr. Samuel Henry Sulouff, of Christ Hospital, Jersey City, graduate of the University of Pennsylvania, attained the highest average of any during the year.

Medical Inspection of Schools.—The Newark Board of Education has provided for a daily medical inspection of schools. The city has been divided into twelve districts and the medical inspectors appointed are Drs. Rudolph Braun, G. L. Warren, S. Schaeler, Winfield S. De Vausney, Frank S. Gordon, Carl H. Wintsch, M. R. Whitenack, Isabel M. Geddes, G J. Holmes, Max Feldman, H. A. Scheppach and William Bleick.

NEW YORK.

Pest-House Burned.—By order of the local board of health the isolation hospital built at Inwood during the smallpox epidemic has been burned.

The President's Case.—The current number of the *Buffalo Medical Journal* contains a graphic illustrated description of the case of President McKinley. The account of the operation is given by Dr. John Parmenter, who assisted at the operation, and the details of the case are given by Dr. N. W. Wilson, who was the recorder at the operation.

Conference of Sanitary Officers.—The first conference of sanitary officers, including local health inspectors and registrars, will be held October 24 and 25, under the auspices of the State Health Department, of which Dr. Daniel Lewis is the head. The conference, which will hereafter be held annually, will be attended by over 1000 health officers. The object of this gathering is to present subjects of practical interest to health authorities by addresses and discussions.

Examination and Counsel of School Children.—The Board of Health of Syracuse, N. Y., in connection with the school officials, has decided that hereafter every pupil in the city schools shall receive a medical examination monthly, as to general health, with particular reference to defects of eyesight; this is also to prevent the spread of infectious diseases. The pupils are to be counseled and advised as to the protection of their health, and the wisest methods for the maintenance of good health and the acquisition of a proper physical development.

Personal.—Dr. Richard W. Bamber, Kendall, has disposed of his property, but will not locate at present.——Dr. James C. Comstock, Binghamton, is dangerously ill, the result of an attack of paralysis.——Dr. Robert H. Phelps, Norwich, has been elected a member of the governing board of physicians, St. Luke's Hospital, vice Dr. L. J. Brooks, deceased.——Dr. Guy C. Bayley, superintendent of Vassar Brothers' Hospital, Poughkeepsie, is dangerously ill from septic infection during an operation.——Dr. William Stump, Utica, has moved to New York City.

New York City.

Increase in Typhoid.—All hospitals report an increase in the number of cases of typhoid fever, and the Board of Health reports 122 cases for the week, as compared with 82 in the corresponding week of 1900.

A Progressive City.—The tax critics point out that New York, with a population of about one-quarter of what it is now, had a Board of Health which cost $40,000 a year against its present expenditure of $1,000,000.

Hospital Blameless.—The coroner's jury, after considering the circumstances surrounding the death of Jonn Chrystie, who died in the Insane Pavilion at Bellevue Hospital, June 18, decided that he died from natural causes, and that the hospital authorities were in no measure responsible for his death. At the autopsy it was discovered that his body was bruised and that two ribs had been broken.

St. Luke's Hospital Cancels Consumptive Contract.—The Board of Directors of St. Luke's Hospital adopted the report of a special committee, September 30, recommending the cancellation of a contract now existing between the Hospital and the House of Rest for Consumptives, which some years ago transferred to the hospital its resources with the understanding that the hospital would thereafter care for consumptive patients.

Bequests to Hospitals.—The late John Gray has bequeathed $5000 to Seney Hospital to endow a bed, to be known as the "Sarah Gray Bed."——By the will of the late Mrs. Harriet B. Ranney, $6000 is left to establish a bed for adults and $3000 for a bed for children at St. Luke's Hospital.——The late Susan Miln, after certain bequests, left the residue of her estate to various charities, including the General Memorial Hospital for the Treatment of Cancer and Allied Diseases and the Home for Incurables.——St. Luke's Hospital will receive a substantial sum from the estate of the late Daniel T. Hoag.

OHIO.

Ohio Board Sustained.—The State Board of Medical Registration and Examination has been placed on a firm foundation by a decision of the Supreme Court of the state, which establishes its right to pass on the competency of Ohio medical institutions.

Typhoid in Toledo.—The health officer, Dr. Walter W. Brand, asserts that there is more typhoid fever in Toledo than the records show. He has therefore mailed to every physician in the city a copy of the rule requiring the report of such cases to the Health Department.

New Doctors Licensed.—At the regular quarterly meeting of the State Board of Medical Registration and Examination, held at Columbus, October 1, sixteen graduates of recognized medical schools of Ohio, who are entitled to exemption from examination under the state board, were granted certificates to practice.

Western Reserve University Medical Department, Cleveland, opened for its annual session, October 2, with about 130 students, the attendance apparently having not been decreased by the increased requirements for admission. The additions to the faculty are Dr. F. C. Waite, Chicago, assistant to the chair of histology and embryology; Dr. Louis W. Ladd, New Haven, Conn., lecturer on clinical microscopy; Dr. H. B. Parker, Baltimore, demonstrator of pathology, and Dr. Roger G. Perkins, Cleveland, lecturer on bacteriology.

Personal.—Dr. Katherine L. Crawford, Toledo, has returned to her home in Ann Arbor.——Dr. John S. Montgomery, Huntsville, was seriously injured in a runaway accident, October 2.——Dr. Thomas L. Cooksey, Wilmington, has been appointed captain and assistant-surgeon in the National Guard, and assigned to the First Infantry.——Dr. Harry P. Findley has resigned from the staff of the State Hospital, and will practice in Massillon.——Dr. Edward L. Emerich, Wooster, has been appointed on the staff of the State Hospital for the Insane, Massillon.——Dr. George N. Simpson, Warren, has moved to Youngstown.——Captain Jacob R. Welch, assistant-surgeon, O. N. G., Spencerville, has resigned.

Cincinnati.

Dr. Thaddeus A. Reamy entertained the Academy of Medicine at his home in Stockton, October 4.

The annual commencement exercises of the training school for nurses of the Presbyterian Hospital were held October 3. A class of nine was graduated. The annual address was made by Dr. John C. Oliver.

Personal.—Dr. Henry F. Gan, has returned after eighteen months spent in the hospitals of Vienna, Paris and London.——Dr. Mary E. Cadwallader has been appointed on the staff of the State Hospital for the Insane, Dayton.——Dr. Frank L. Ratterman has sailed for Europe to take up an extended course of study in diseases of the stomach and intestines.——Drs. Burnett Weaver and Dudley Webb have been appointed surgeons to the Cincinnati Traction Company, to succeed Dr. C. S. Muscroft, resigned.

PENNSYLVANIA.

Scarlet fever is prevalent in Homestead.——Typhoid fever is reported to be epidemic in Allegheny.——Diphtheria is so prevalent at McKeesport that the closing of the public schools is being considered.

Personal.—Dr. Michael W. Raub has been reappointed health officer of Lancaster.——Dr. Farnham H. Shaw has located in Wellsboro.——Dr. Arthur C. Wheeler, Erie, has moved to Reynoldsville.——Dr. William L. Grim, West Finley, will move to West Washington, November 1.

Free Hospital for Poor Consumptives.—The colony of consumptives, located under the auspices of this institution at White Haven, now numbers seventeen. The present buildings are a barn and a cottage. Beds are spread on the barn floor and the doors are kept open during the day. Weather paper is being placed on the walls in preparation for the snow, and a hot-water heater will soon be installed to keep out dampness and to modify the temperature about the beds. Nothing, however, is done that will tend to impede the circulation of fresh air. The cottage is used as a dining-hall.

Uniontown Hospital.—A recent news item in THE JOURNAL which stated that the Uniontown Hospital Association was building a hospital, and had $5000 subscribed, was partially incorrect, as the State Legislature has appropriated $18,000 for building purposes and $9000 for maintenance for two years. In addition to this, Mr. Josiah V. Thompson has donated two acres of ground, valued at $1000, on which to erect the building, and the citizens of Uniontown and vicinity have already subscribed some $10,000. The trustees are: Hon. Nathaniel Ewing, president; Dr. Thos. N. Eastman, vice-president; Dr. Jacob S. Hackney, secretary; Samuel M. Graham, treasurer, and Hon. Josiah V. Thompson, Hon. A. D. Boyd and O. W. Kennedy.

Philadelphia.

Jefferson Medical College held its opening exercises, October 1. Dr. J. Chalmers Da Costa delivered the opening address.

The Medico-Chirurgical Medical College opened for the session of 1901-1902, October 1. Dr. John C. Heisler delivered an address on the qualities which should be cultivated by the physician.

Contagious Disease.—During September there were 116 cases of smallpox in the city, 234 cases of diphtheria, 152 cases of scarlet fever, 407 cases of typhoid fever and 214 cases of consumption.

Objection to Isolation Hospital.—The plans of the board of directors of the proposed hospital for contagious diseases, for which a site was recently purchased at Narberth, have been abruptly stopped by the authorities of that place.

Registration of Consumptives.—Although six months have passed since the registration of tuberculosis patients was urged by the medical profession and approved by the Board of Health, nothing has been done, because of the Mayor's opposition.

The new medical laboratory building for the University of Pennsylvania will be quadrangular, two stories in height above a high basement, and will measure 340 feet front by nearly 200 feet in depth. The first floor of the building will be devoted to physiology and pharmaco-dynamics, and the second floor will be devoted exclusively to pathology. The equipment will be adequate.

GENERAL.

Dr. Vincenz Czerny, professor of surgery at the University of Heidelberg, is visiting San Francisco, the guest of Dr. Burkan, of that city.

Hospitals in the Philippines.—Surgeon General George M. Sternberg, U. S. Army, in a recent interview, expressed the greatest satisfaction over the condition of the hospitals and medical service as he found them in his visit to the islands.

International Quarantine Congress.—Under the patronage of many eminent men abroad, arrangements have been set on foot for assembling an international quarantine congress. The movement originates with Assistant Surgeon Frank W. Foxworthy, U. S. A., who is at present in Europe. The congress will attempt to formulate a uniform code of quarantine laws, which shall be the standard for the entire world.

Large Number of Women Studying Medicine in Switzerland.—The women students at Berne outnumber the men by 190 to 174. At Geneva, there are 168 women and 183 men following the medical course. The total number of women now studying medicine in Switzerland is 511. Mme. Bornstein was recently admitted to the entire privileges of a registered physician in Berlin after graduating in Switzerland and Prussia; she was admitted at the same time as her son.

Smallpox Report.—According to the last report of the Marine-Hospital Service, the number of cases of smallpox reported between June 20 and September 20 was 9797, as compared with 3818 during the corresponding period of last year. The number of deaths resulting from the cases reported was but 274, showing a smaller death-rate this year from the scourge. Some states have enjoyed greater freedom from the disease than last year, while a few states make distressingly high reports, notably Pennsylvania, which had 10 cases last year and 1205 this, and New York, which had 7 last year as against 521 this year.

The Death of President McKinley.—The *Progrès Médical*, of Paris, speaks with admiration of "the absence of the delays and the distressing indecision, which so often is witnessed at the bedside of persons of prominence. The decision and promptness with which our American confrères complied with the urgent and pressing indication for laparotomy, the clearness and frankness of their bulletins, and also the beautiful fortitude manifested by the unfortunate victim from the moment he was stricken by the assassin to the supreme hour of death." The *Journal de Méd. de Paris* observes: "The only treatment possible was applied in the case of President McKinley, but

the bulletins published were most amazingly optimistic. Not only was infection almost certain after such a traumatism, but the symptoms never ceased to be alarming. How was it possible to speak of being out of danger after a laparotomy under such conditions, when the pulse kept at 120 and the temperature between 38 and 39 C.? Either our American confrères were deceived, or for political reasons they wished to reassure public opinion. The report of the autopsy is equally bizarre and inadequate."

CANADA.

Hamilton Medical Society.—This association has passed a resolution urging that an isolation hospital be established in that city. At the next regular meeting of the Society, Dr. Roswell Park, of Buffalo, will contribute a paper on abdominal surgery.

Toronto Senate Elections.—The following members of the Medical Faculty of Toronto University were elected by acclamation at the recent elections for the senate: Mr. Irving H. Cameron, Dr. W. H. B. Aikins, Dr. James M. McCallum and Dr. Adam H. Wright.

Smallpox.—A serious outbreak of smallpox has again broken out at Copper Cliff, near Sudbury, the scene of the extensive epidemic of last spring. The appearance of the disease in that section of Ontario is causing the Provincial Health Department considerable anxiety.

Medical Inspection of Schools.—Some citizens of Toronto are advocating systematic inspection of the public schools by medical practitioners. The Ontario Board of Health has already endorsed this scheme, and the matter will probably now receive more attention.

Victoria Memorial College Hospital, at Revelstroke, had its cornerstone laid on September 29 by the Countess of Minto, who was one of the party conducting the Duke and Duchess of Cornwall on their trip. This hospital is the fourth of its kind organized in western Canada.

Obituary.—Truman W. Duncombe, M.D., Toronto Medical College, 1882, died suddenly at his home in St. Thomas, Ont., October 2, aged 42. He was a prominent and popular practitioner.——Dr. Hugh Bain, Calgary, N. W. T., died, October 2, at his home, aged 49. He was well-known as a prominent practitioner in the Territories.

Effervescent Sodium Phosphate.—The Inland Revenue Department has just published the result of analyses of sixty-four samples of effervescent sodium phosphate. Of this number only thirteen, or 20 per cent., were found to be genuine. The greater number of the adulterated samples have been so characterized as they do not conform to the B. P.

Montreal General Hospital.—Admissions to the wards of the Montreal General Hospital for the month of September numbered 234. The discharges for the same period were 226; the deaths, 14; the daily average of indoor patients, 180. Consultations in the outdoor department numbered 2565. There have been a considerable number of typhoid fever cases.

Appointment of a Special Inspector.—In view of the repeated outbreaks of smallpox in the unorganized townships of northern Ontario, the Provincial Health Department is considering the advisability of appointing a permanent inspector for those districts. The territory extends from the Ottawa River to Rat Portage, twelve hundred miles, and has a population of 100,000.

Toronto Vital Statistics.—In September there were registered in Toronto 339 births, 229 marriages and 253 deaths. During September, 1900, the registrations were: Births, 328; marriages, 187, and deaths, 290. It is said that the registration of births should be much larger as many physicians fail to register these. London's vital statistics for September were as follows: Births, 60; marriages, 66; deaths, 57.

Medical Examinations.—The fall medical examinations were held at Quebec, September 25 and 26. At a meeting of the Board of Governors of the College of Physicians and Surgeons, September 25, the following officers were elected: President, Dr. Lachapelle; vice-presidents, Dr. Wallee, Quebec, and Dr. Craig, Montreal; registrar, Dr. Marsolais, Montreal; treasurer, Dr. Jobin, Quebec, and secretaries, Dr. McDonald, Montreal, and Dr. Paquin, Quebec.

Toronto Clinical Society.—This Society began its 1901-1902 session on the evening of October 3, with the president-elect, Dr. J. F. W. Ross, in the chair. Dr. Bruce presented a hairy tumor, a report of which has already appeared in the columns of The Journal. Dr. A. A. Small showed two interesting cases: One a woman of 40, with a cystic tumor in the left popliteal space, which Dr. Grasett suggested was probably connected with the sheath of a tendon or an enlarged bursa; and a case of polymastia in a woman of 60, who had borne several children. This supposed supernumerary breast was situated just behind the right posterior axillary line and was quite characteristic of a breast, although lactiferous openings could not be defined. It had never enlarged during nursing. The nipple-like tumor had always been present. The opinion was pretty general that the so-called supernumerary breast was a lipoma. Dr. A. A. Macdonald showed a specimen of cystic-adenoma of the breast. He believes in removing the entire breast in such cases.

Toronto Medical Society.—The first regular meeting of this Society was held on the evening of October 3, with the president-elect, Dr. F. N. G. Starr, in the chair. He delivered a very interesting presidential address on eminent members of the profession in Toronto, in days gone by, illustrating this with canvas photographs. Mr. Cameron showed some very interesting calculi extracted from an old man of 76, by high section, some fourteen of these being found in the cul-de-sac, behind the prostate. Dr. Graham Chambers showed a girl of 13 years who had hydro-vacciniforme for ten years. Dr. Primrose and Dr. Chambers showed a young man of 25 with blastomycosis. The two lantern-slide photos shown, exhibited warty tumors on the right malar bone, one on the neck, one on the shoulder and another at the inner canthus of the right eye, which resembled very much an epithelioma. The fungus was readily found under the microscope. Excision and the actual cautery in the hands of Dr. Primrose is effecting a cure.

Opening of the Medical Schools.—The medical department of the Western University at London opened for the winter session, October 1.——Toronto School of Medicine resumed its work on the same date. Professor J. F. W. Ross delivered the opening lecture, taking for his subject, "The Indian Medicine Man." Before a single lecture had been delivered a larger number of freshmen had been enrolled than for any previous year. A demand will probably be made for additional accommodation from the provincial government.——Queen's, at Kingston, opened October 2. New additions have been completed during the summer, at a cost of $10,000. The Reverend Principal Grant, who is confined with a serious illness, sent a message to the assembled students, exhorting them to take up their studies seriously from the outset. He said that hereafter there would be greater pains taken to prevent the graduation of irreverent and half-taught young doctors from Queen's.——Bishop's Medical College also opened during the week, the dean, Dr. F. W. Campbell, delivering the opening lecture. It is only a few years since the standard for medical matriculation was raised in Ontario, but with the increasing influx into medicine, it would appear as though the B.A. standard of matriculation was in the near future.

FOREIGN.

Professor Virchow has had the largest municipal hospital in Berlin named after him, in honor of his coming eightieth birthday. The city has also voted 100,000 marks to the Virchow House, a charitable institution.

Bubonic Plague Threatens.—A rat caught on board an East India liner was found to contain pest bacilli. It is feared that the plague may thus have been carried into France by the escape of other infected rats at various ports.

Smallpox in London.—There were 128 cases of smallpox in the London hospitals, September 30; there are in all 4885 patients in the hospitals. The medical officers are busy revaccinating, and scarlet fever and diphtheria are also causing the Health Department considerable concern.

Honors to the Memory of Chassaignac and Maisonneuve.—During the French Congress of Gynecology which was held at Nantes, the latter part of September, portrait busts of these two famous sons of Nantes were unveiled with appropriate ceremonies, followed by a banquet of the Chassaignac committee and the members of the congress. The busts are in the grounds of the public hospital.

Deaths Abroad.—Our Brazilian exchanges announce the death of A. R. de Alvarenga, President of the Faculty of Medicine at Rio de Janeiro, from 1889 until last February. The titles of Baron and Viscount had been conferred upon him in token of appreciation of his services to the late Emperor, Pedro II, and the Republic has also conferred signal honors upon him. The medical school was closed for the week following his death as a mark of respect to his memory. He was aged 69.——The death of Dr. Cuneo, chief of the Medical Corps of the Navy of

France, occurred at Vichy, September 4.——Dr. Vaucher, professor of obstetrics and gynecology, at Geneva, is dead.

Prevention of Tuberculosis.—The Minister of Public Works of France has sent a circular letter to all railway companies, pointing out the best manner in which to combat the propagation of tuberculosis among their employes. The companies are already very careful, accepting only applicants shown by medical examination to be free from the malady. The future aim will be to give outdoor positions to those who have contracted it since entering the service.——The Prussian School Inspectors are paying particular attention to the prevention of the disease. The Minister of Public Instruction has recently sent to the Department of School Inspection copies of a pamphlet written by an American physician on this subject, with an order to the inspectors to consult with the teachers regarding preventive measures.

PARIS LETTER.

Cigarette Smoking Compared to Cigars.

The Royal Medical Academy of Belgium has published a report by Dr. Kuborn on the use of tobacco, in which the author lays down some principles as to the conditions needed to avoid the noxious effects observed at a certain age. One should avoid damp tobacco, which allows nicotin to escape with the steam without being decomposed. Use tobacco which contains a small amount of nicotin, and do not smoke before meals. Smoke with the help of a cigar or cigarette holder, throw away the last quarter of a cigar and smoke in a well-ventilated room. Cigarettes are the least dangerous form of tobacco.

The Microbe of Dysentery.

Dr. Lesage, physician of the Paris hospitals, who is a well-known bacteriologist, especially in intestinal affections, has just published in the *Presse Medicale* of August 17 a short notice on a microbe of dysentery. An extract of this will be of use as a means of comparing it with what has been recently discovered in the Philippine Islands, and with Shiga's bacillus. Dr. Lemoine was able to examine a large number of cases of dysentery in the service of Dr. Galliot, at Toulon, and he was able to note the following facts: 1. In cases of dysentery from China, Cochinchina, Algeria or Toulon, there is to be found a micro-organism the number of which increases with the progress of the disease and diminishes when convalescence sets in. 2. This parasite is polymorphous, either a micrococcus or streptococcus, generally seen as a diplococcus with equal or unequal grains. In the latter case the micro-organism has the appearance of a balloon with its basket. 3. This microbe is discolored by Gram's method, does not coagulate milk and does not grow on potatoes. 4. It is to be found in the various intestinal products of dysentery, and after death in the veins of the mesentery and the glands of the same order. 5. Injected into the rabbit and guinea-pig, it produces septicemia without intestinal localization. With the cat, however, there is localization on the large intestine, with lesions identical to those observed in man.

New Treatment of Blennorrhagia.

A new treatment for blennorrhagia has been recommended by Dr. de Brun, professor at the Medical Faculty of Bayreuth. It consists in the use of picric acid. A 1 per cent. solution can be used, but is found to be rather painful, so a solution of 0.5 per cent. is usually employed. Only 5 to 6 cubic centimeters should be injected for a few minutes, and this should be repeated two or three times a day. A cure is obtained after four or five days. In chronic forms Dr. de Brun has obtained good results when the disease only existed in the anterior part of the canal. The result of the injection is shown by the change in the coloration of the flow. A bacteriologic examination shows a rapid diminution of the gonococci.

Treatment of Rectal Stenosis.

Dr. Chaput has obtained in quite a number of cases of medullar cocainization anesthesia of the arm and even of the face. Out of 102 observations there were 31 cases of anesthesia of the arm, 4 of the face and 9 of the head in its entirety. At one of the last meetings of the Society of Surgery, the treatment of rectal stenosis was discussed; two observations furnished by Dr. Souligoux and Dr. Walther showed the advantages derived from performing enterotomy in the iliac region, and in the first of the two cases, dilating from above. Later this opening was closed and the patient is supposed to dilate the rectum with catheters used twice a week.

Electricity in Blennorrhagic Arthritis.

Dr. Mathieu, at a recent meeting of the Society of Therapeutics, described the results obtained by the use of electricity in six cases of blennorrhagic rheumatism. These observations had been furnished by Dr. Delorme, who noted some improvement the day after the first use of the galvanic current. There was diminution of the edema and of the pain. A comparison was established by using on one articulation the galvanic current and on another salicylate of methyl. It was found that articulations treated by salicylate were not affected by the treatment, while those subjected to the electrical treatment were much improved.

Tuffier's Statistics on Appendicitis.

Dr. Tuffier's statistics in the treatment of appendicitis have been recently published in a thesis presented at the Paris Faculty of Medicine. There were 52 cases operated upon during the last eighteen months with the following results:

Six operations for general peritonitis, with 4 deaths; 22 observations of pericecal abscess, 19 immediate operations, with 19 cures; one deferred with subsequent death; another with consequent fistula, and still another was not operated on and died; 8 observations of acute appendicitis, with 7 operations followed by success; in one case the operation was deferred and the patient died before being operated upon; 16 patients were operated on sometime after their attack and all recovered.

According to Dr. Dubarry, who is the author of this thesis, the opinion of Professor Dieulafoy that the only treatment of appendicitis is to be found in surgery, is correct, and peritonitis, abscesses or acute attacks of appendicitis should be operated upon.

Correspondence.

A McKinley Memorial.

NEW YORK, October 7, 1901.

To the Editor:—During the past week some lay and some medical journals announced that it was intended to erect in Washington a McKinley Hospital in honor of our late beloved President.

Beautiful as this idea may be, I believe that a little memorial hospital, located in Washington, is not a great enough tribute to a nation's president such as was William McKinley. Furthermore, while I would not wish to say that there is no room for a hospital for the treatment of general diseases in Washington, I know that there is no urgent need for it. On the other hand, I know, and all physicians and charity workers of our large eastern and western cities will bear me out when I say that there is a crying and urgent need of a sanatorium, or rather several sanatoria where the many little scrofulous and tuberculous children of poor parents could receive treatment, care and the necessary education. France, Germany, Holland, Italy, and the Scandinavian countries, all have numerous seaside sanatoria where the little sufferers afflicted with the above-mentioned diseases receive care. The seacoast climates, combined with proper sanatorium treatment, seem to produce really wonderful results in scrofulous and tuberculous children. The reports of some of the European seaside sanatoria state an average of 75 per cent. of cures.

We in America have, with the exception of one or two small children's hospitals and a few floating hospitals during the summer months, no such institutions. In an address delivered at the recent Congress on Tuberculosis in London, I said that in our eagerness to take care of the consumptive adult we should not forget the little sufferers afflicted with the same or other tuberculous diseases. To treat the scrofulous or tuberculous child—scrofulosis being only a milder form of tuberculosis—or to prevent a child with a hereditary tendency from developing consumption or any other form of tuberculous disease, means the saving of a life and the preservation of a perhaps very useful future citizen.

To realize the urgent need of seaside sanatoria for children one must have visited the crowded tenement districts of our great cities and seen the large number of scrofulous and tuberculous children there, and the many who bear on their pale little faces the stamp of candidates for consumption—pulmonary tuberculosis.

There are already laws in some states prohibiting the tuberculous child from attending public school; but so far as I know none of these states have provided other places where children suffering from a chronic communicable, but also curable disease, can receive the education to which they are entitled, much less where they could have a chance of being cured from their affliction. The results obtained in some of our American sanatoria for the treatment of tuberculous adults are as good as any of those obtained in European institutions. The preventive measures inaugurated by our New York Board of Health have not only served as models for other American cities, but have been imitated by many European municipalities and found to be the most practical and efficacious. We have already a number of sanatoria for the treatment of the consumptive poor adults, though by no means enough of them. However, in nearly every state of the Union the question of providing institutions for adult tuberculous patients with little or no means is now being agitated. Only for the countless little ones suffering from the same or other tuberculous diseases there is nothing done.

Our martyred President had two children, and these he lost. He dearly loved little children, and the creation of a sanatorium for the treatment and prevention of a disease with which so many American children are afflicted, would surely be a fitting memorial to this great man and lover of children. "McKinley Sanatorium for the Treatment and Prevention of Tuberculous Diseases in Children" should be the name of such an institution.

The meaning of the name William McKinley, written on the portals of these houses of hope for many a suffering mother's heart, will be made clear to these little inmates by their teachers and grown-up friends. The word McKinley will embody to these little sufferers all that is needed to make them good patients, obedient scholars, noble men and women, true American citizens. McKinley's fortitude during the last days of his life must teach them what all patients need: Trust in God, confidence in their physician, patience. His words of forgiveness to the very man who slew him must show these little children the sublimity and nobleness of his character. McKinley's life as a man, citizen, patriot, and president embodied all that is truly American. A better example to teach our children the meaning of true manhood and true patriotism we can not find.

Let all American men and women who can afford it contribute through their children, or through their children friends, toward the realization of this McKinley Sanatorium.

In letting the children of parents of means who are happy and well, bring their mites toward a movement of this kind a lesson of charity and patriotism may be taught to them as well. There will be found in every community responsible and patriotic citizens to take this matter in hand and bring it to a successful issue. Let each state contribute enough to have its own pavilion to which to send its children. Let the Atlantic and Pacific coast be lined with such institutions, one or two pavilions for each state, according to its needs. Let good schools be attached to each sanatorium so that the intellectual development of the children may not suffer.

There exists in the North Sea, or German Ocean, on the island called Norderney, a beautiful flourishing sanatorium for the treatment of tuberculous children. Its name is "Kaiser Friederich Hospiz," and it was erected in memory of that unfortunate emperor, Frederick the Third, whom the German people so fondly call "Frederick the Noble." In the fortitude of this beloved sovereign, in his patience, in his martyrdom, in his love for the people, in his ideas and ideals of what should constitute a free and just nation, there is a great similarity to our beloved McKinley.

We, too, may call our martyred ruler "the Noble," and to his memory erect a memorial of practical utility. Let us build an institution where the lives of American children can be saved, to be sent forth in health and vigor to their respective communities, and to help finish the work for which McKinley lived and died; to make the American nation the greatest, the noblest, the foremost of the world. S. A. Knopf, M.D.

Married.

Arthur Allen Libby, M.D., Boston, Mass., to Miss Florence Hunt, Reading, Mass., October 3.

Martin L. Hindley, M.D., Monroeville, Ohio, to Miss Myrtie Morrow, Martel, Ohio, October 2.

Christian Storz, M.D., to Miss Pauline C. Lotterer, both of Toledo, Ohio, at Delphos, Ohio, September 25.

Dr. Albert S. Horton, M.D., to Miss Josephine Lulu Dwyer, both of Baltimore, at Hampton, Va., September 25.

Cornelius F. McCarthy, M.D., Batavia, N. Y., to Miss Georgiana A. Merrill, Byron, N. Y., at Watkins, N. Y., September 25.

Frederick Allport Dale, M.D., assistant surgeon U. S. Army, Aparri, Philippine Islands, to Miss Caroline Maude Kern, Philadelphia, Pa., September 4.

Deaths and Obituaries

Samuel J. Jones, M.D., University of Pennsylvania, 1860, a member of the American Medical Association, died from pneumonia, after an illness of less than a week, October 4, aged 65. He was born in Bainbridge, Pa., in 1836, the son of a physician. He received his education at Dickinson College. He served throughout the Civil war as a medical officer in the U. S. Navy. In 1868, he resigned from the navy and settled in Chicago, making a specialty of diseases of the eye and ear. From 1870 to 1897 he was professor of ophthalmology and otology at the Chicago Medical College, and for many years was surgeon to the eye and ear department of St. Luke's Hospital, Mercy Hospital and the South Side Dispensary. For the last two years, since his retirement from active practice, he had been conducting an active propaganda against street noises, to which he had always been particularly sensitive. He was for several years editor of the *Chicago Medical Journal and Examiner.*

Aaron Cornish, M.D., Castleton (Vt.) Medical College, 1855, died at his residence in New Bedford, Mass., after a lingering illness, September 26, aged 68. He was a native of Plymouth, studied medicine first at Albany, completing his course at Castleton. He first practiced in Boonville, N. Y., and, at the outbreak of the Civil war, he became surgeon of the Ninety-Seventh New York Infantry, and served until 1863, when he succeeded to the practice of his uncle, Dr. Aaron Cornish, Sr., New Bedford.

Daniel E. Thayer, M.D., Chicago Medical College, 1871, died at a sanatorium in Winchendon, Mass., September 29, aged 58. His death was due to nervous trouble, the result of injuries received in a runaway accident several months ago. After his graduation he practiced in Virginia for seven years, then at Cheshire, Mass., for ten years and afterward made his home at Adams. He had served in the Legislature and was prominent in the local and state medical societies.

Richard H. Whitfield, M.D., University of Pennsylvania, 1853, a prominent citizen and physician of Meridian, Miss., died at his home in that city after an illness of four months, September 30, aged 71. He represented Lauderdale County in the Legislature and served as surgeon in the Confederate army during the siege of Vicksburg, where he had charge of one of the hospitals.

George Shivel, M.D., Jefferson Medical College, 1851, a retired practitioner of Philadelphia, died in the Municipal Hospital in that city from smallpox, September 29, after an illness of one week. During the Civil war he became well known from his connection with the military hospitals.

Rev. James Bryan Purcell, M.D., University of Maryland, Baltimore, 1866, of St. Barnabas P. E. Church, Sykesville, Carroll County, Md., died there September 24, aged 59. He was a native of Dublin, Ireland, and served for a time as Acting Assistant-Surgeon, U. S. Army.

Robert M. C. Hill, M.D., New York University, 1860, a practitioner of Mount Meigs, Ala., and who was a native of

Montgomery County, died at his home, September 20, aged 63. He was a surgeon in the Confederate service during the Civil war.

Francis E. Hines, M.D., Harvard University, Boston, 1879, a resident of Salem since that time, for 12 years a member of the School Board and at one time a member of the Legislature, died at his home in Salem, September 30.

Preston Fisher, M.D., Jefferson Medical College, Philadelphia, 1851, died at Boston, September 23, aged 72. He practiced for many years at Orono, Foxcroft, Maine, but of late years had resided in Jamaica Plain, Mass.

James W. Graves, M.D., Trinity Medical College, Toronto, 1866, one of the best-known practitioners in the thumb of Michigan, died at his home in Caro, from hemorrhage from the stomach, September 28, aged 68.

Nathaniel P. Wright, M.D., University of Louisville, 1876, a prominent physician of Lowry City, Mo., died at his home in that place from gastric ulcer, after an illness of several months, September 30, aged 53.

Abram Litton, a pioneer chemist and scientist of St. Louis, for half a century professor of chemistry in Washington University, and St. Louis Medical College, died at his home in St. Louis, September 22, aged 87.

Frank C. Cullen, M.D., Rush Medical College, 1887, died at his residence in Chicago, September 29, from typhoid fever, after an illness of two weeks. He was at one time registrar of Cook County Hospital.

Job S. Wallace, M.D., Northwestern Medical College, St. Joseph, Mo., 1889, a member of the American Medical Association, died from the effects of morphin, taken with suicidal intent, September 28.

Andrew J. Rogan, M.D., Albany Medical College, who practiced in South Shaftsbury and North Bennington, Vt., died in Colorado, where he had gone for his health eighteen months ago.

Elisha O. Mannakee, M.D., University of Louisville, Ky., 1866, for nearly thirty years a resident and practitioner of Washington, D. C., died at his home in that city, September 23.

John S. McNutt, M.D., Cincinnati College of Medicine and Surgery, 1867, for thirty years a practitioner of Philadelphia, died at his home in that city, September 28.

James Walter Dunphy, M.D., College of Physicians and Surgeons, New York, 1895, died at the home of his parents in New York City, October 1, aged 26.

Albert V. Benedict, M.D., Rush Medical College, Chicago, 1881, a practitioner of Portal, N. Dak., died from diabetes, at Braidentown, Fla., September 15.

McPherson Barnitz, M.D., Tulane University, New Orleans, La., 1899, died from heart disease at his home in San Antonia, Texas, September 23.

Percy J. Shute, M.D., College of Physicians and Surgeons, New York, 1896, died from nephritis, at his home in Jeffersonville, N. Y., September 29.

Albert L. Wagner, M.D., College of Physicians and Surgeons, Chicago, 1885, died at his home in La Paz, Ind., September 28, aged 41.

Direct Medicinal Injections in Lungs.—The *Union Med. du Nord-Est* of July 30, contains a communication from G. Rosenthal, describing the great benefit to be derived from direct injection of medicinal substances into the trachea, just below the cricoid cartilage, the patient's head being bent slightly forward. There is no coughing nor any kind of spasm, and the fluid can be injected as slowly as is desired. He uses a needle, as for hypodermic injection, connected by a rubber tube, with the receptacle holding the medicated solution. Absorption through the lungs proceeds as rapidly as through the veins, he asserts, and the lung tissue can thus be directly influenced. He sometimes leaves the needle in place for a week at a time, renewing the injection each day, and afterward inserting a stopper and fastening it in place with collodion.

Testimonial Banquet in Honor of Dr. Nathan Smith Davis

A testimonial banquet was given to Dr. N. S. Davis, the Father of the American Medical Association, Nestor of the medical profession, first editor of this journal, and founder of the Mercy Hospital, at the Auditorium Hotel, Oct. 5, 1901, under the auspices of the Chicago Medical Society.

The event was a grand success. Approximately three hundred and fifty physicians from Chicago and various parts of the country attended the feast. The gathering was a representative one and typified in a striking manner the high esteem in which Dr. Davis is held by the profession. Cities outside of Chicago were well represented. The tables were tastefully decorated with flowers. The speeches were timely, replete with good thoughts, characterized by zest, and interspersed with wit and humor. The reminiscences about Dr. Davis were fraught with interest, and their recital by Drs. Andrews, Waxham, Hollister and Bridge created amusement.

Dr. Davis sat between Drs. Fenger and Billings, the one, the highest embodiment of modern surgical pathology, the other, representing all that is progressive and modern in internal medicine. After the banquet Dr. Christian Fenger, president of the Chicago Medical Society, rapped for order, and introduced Dr. James H. Stowell, who said that the members of the profession had assembled to pay their respects to one of the greatest examples of professional honor and dignity in the medical profession. He said it was unnecessary to call attention to the many eminent pupils that had been sent out under the instruction of the distinguished guest. The Deans of three of the largest medical colleges in Chicago were pupils of Dr. Davis. Throughout the country graduates from the Chicago Medical College were occupying positions of eminence, and among them were Drs. Nicholas Senn, Norman Bridge, Frank Billings, Nathan Smith Davis, Jr., Arthur R. Edwards, Roswell Park, John A. Fordyce, and many others, who had in some way or other been honored by their professional brethren.

The toastmaster of the evening, Dr. Frank Billings, said that to preside at a banquet given in honor of Dr. Davis was an honor second only to that which Dr. Davis was receiving. Dr. Davis did not belong to Chicago alone, but to the whole country. Dr. Davis was a New Yorker by birth, was born Jan. 19, 1817, and graduated in medicine in 1837, when he was not quite 21 years of age, from the College of Physicians and Surgeons of the Western District of New York. He then practiced medicine in Binghamton, N. Y., for about ten years, and, seeking wider fields, or people in a better field seeking him, he went to New York City, where he remained about two years. Then Chicago, always looking for something better, found Dr. Davis there, and invited him to Chicago. He came here in 1849 and taught in Rush Medical College for the next ten years. Not satisfied with the method of teaching at that time, and desiring a different method and a longer course, he, with others, severed his connection with that school and founded the Chicago Medical College in 1859. He said that the history of Dr. Davis was known to all, and it was hardly necessary for him to take time in repeating it. He only desired to say that Dr. Davis had become known throughout the whole country as a medical teacher, as a lever to elevate medical education. Practically, it was due to Dr. Davis that the first steps toward a better method of medical education were taken in America, and it was he and his colleagues who instituted the graded method of instruction in medical schools. The speaker said that Dr. Davis and his colleagues had not received the credit that was due them for this, and that Eastern medical schools had taken the credit, although they had adopted the graded method of instruction afterwards. As a teacher he was eminent. Those who had sat at his feet and had listened to his lectures would remember as long as they lived his graphic description of disease, even in a didactic lecture. When it came to the demonstration of a case, he did not think there was any clinician

abroad or in this country who could excel Dr. Davis in the matter of clinical teaching. The work of Dr. Davis was not alone confined to medical teaching, for it was through his efforts that the American Medical Association was founded, and he is called the Father of the American Medical Association. Dr. Davis was the founder of Mercy Hospital. Dr. Davis had been president of the Illinois State Medical Society, of the Chicago Medical Society, of the American Medical Association, and the only American who was ever president of an international medical congress. Dr. Billings then dwelt at length upon some of the chief characteristics of Dr. Davis' life, among which were: "Industry, tenacity of purpose, integrity; progressiveness; liberality, a Christian gentleman."

Dr. Edward F. Wells presented the loving cup to Dr. Davis. He said:

"Honored Sir and Guests: In behalf of the medical profession of Chicago and of the whole country, it is my privilege to present to you this loving cup as a token of the esteem in which you are held by your associates, and as an expression of their appreciation of your valuable labors in the advancement of scientific, practical, academic and social medicine.

"This beautiful cup, of Grecian design, is, in its lines and proportions, a model of simple, vigorous dignity, and was selected as being peculiarly emblematic of your character and career. Engraved upon one side is an excellent likeness of yourself; upon another is the leaf of victory, and beneath it the inscription, *Palmam qui meruit ferat*—let him who has won it bear the palm—and beneath this, 'Pioneer in local and national medical organization, and in graded medical instruction'; and upon the other is this memorial tribute: 'Presented to Nathan Smith Davis, A.M., M.D., LL.D., in recognition of his long and distinguished services to medicine, in its every field of usefulness, by the members of that profession which he has so conspicuously adorned, and to whose shield he has given an added luster.'

"Few possess the creative genius necessary to initiate great forward movements in public affairs, and fewer yet are permitted to see the realization of their lofty conceptions. But you, sir, are singularly fortunate in both these respects; and, now, after these many years, you may stand before the bow of promise, supported, as it is, upon one side by the fathers of medicine, resting upon the adamantine foundations of experience and truth, and upon the other by the moderns, standing upon the broad expanse of experiment and fact, and, looking through, view with satisfaction the fair and boundless plains of the future as they stretch out beyond."

When Dr. Davis arose to make a speech accepting the loving cup, he was greeted with loud and prolonged applause, and three hurrahs were lustily given for the venerable guest. Dr. Davis was visibly affected by the ovation, but spoke in a deliberate manner, as follows: "Mr. Toastmaster, and Fellow Members of the Medical Profession: It is useless for me to say that there are no words at my command by which I can convey my idea of the gratitude that fills my soul at the present time. If there is any particular thing that has guided my course through life, and if I have been able to contribute anything of value that justifies your presence and this most generous exhibition of your kindness and respect to me, it is from a very simple principle of action. At the age of seven years, as a boy who had never been outside of his father's farm, born in a log house, and when still in a log house, I was called to the bedside of my dying mother to receive her last words. I was the youngest of a family of seven children; I was in my seventh year. It made a vivid impression upon my mind. She was a Christian—a reader of the Bible. She said to me that she wished me to be a good boy, to learn to worship God, and to do good to my fellow-men. I promised her I would. Of course, I did not realize the importance or bearing of that promise at that early period of life; but an impression was made upon my mind, and from that day to this the rule of my life has been, that whatever comes up that seems to be important and will improve my fellow-men, my impulse is to do what I can to help it along. (Applause.) That is the whole foundation of it. I refused to undertake anything the results of which would not be beneficial to those around me, whatever it might be. The question was, Would it benefit my fellow-men? If it would, I supported it. I refused, on the other hand, to lay up enmity against any human being, and to-day I stand here and say that I know of no man or woman for whom I have an evil wish, and there is not one to whom I would not extend a helping hand at any moment if they were within my reach and needed it. (Applause.)

"On this principle of action and reading the book that my mother pointed to and taught me to read, there was revealed a habit that in old times the patriarchs often formed a covenant with their God, and in my innocent early boyhood, as I grew on, a proposition was made for me to study medicine. I no sooner began than I formed a covenant with my Creator, that he would guide me, so that I could be qualified to do good to the sick, to alleviate human suffering, and to prolong human life. I dedicated my life to that great leading idea, and from that day to this I have striven to follow in that line.

"It was not long before I stumbled on the fact that the system of medical education was a very ridiculous one, for I went each year to the college and went over the same thing—six lectures a week, and skimmed the whole field in sixteen weeks. I thought that was very queer. I listened to these lectures every day, but studied only three of them. I left the other three for next year to make up. I made my own division. As soon as I graduated and got into practice, in about three years I was a delegate to the New York State Medical Society. The first thing I did was to introduce a series of resolutions that the term of medical education ought to be extended to not less than six months, at least, and the course of instruction should be graded. I was criticised for this, and the resolutions were promptly laid on the table. The gentleman who made the motion to lay the resolutions on the table happened to be a professor in the medical school from which I graduated. There was one man there who seconded the resolutions that were laid on the table. I hunted him out, and had an earnest conversation with him regarding the resolutions, and I said something to the effect that if this was the way they were going to serve any measures that I might bring before the convention, I should not travel by old-fashioned stage coaches from Binghamton to Albany many times to attend an association on such a basis. The professor, who introduced the resolutions, had heard the substance of our conversation, and after he had taken his dinner and the association reconvened, he moved to take the resolutions from off the table. This permitted one hour's discussion, and by means of this discussion we gained time enough to have them referred to a committee and to postpone the resolutions for renewed discussion until the following year. The next year we discussed them again, and the fight was continued until it amounted to this, that we were having a standard of education in New York as high as it was in any other medical college in the United States, and that if we undertook to make a six months' term, graded courses, the only effect would be to send students to Boston on the one hand, and to Philadelphia on the other, and we would benefit nobody. But how were we to get out of this? If one state can not move a peg without the rest, let us have the rest, and a resolution was adopted to have a national meeting of all the institutions for that purpose. The resolution was seconded, and after a minute or two of silence, and a little laughter, it was easy for them to see that Davis did not want to fool away his time, and they said let him work. And so they passed the resolution for a national convention and appointed me chairman of the committee to carry it out. I did carry it out, and the result you know. I do not need to tell you about it; you know it; that is the secret of the story. It was not my planning; it was simply done on the principle of doing right and sticking to the right whenever an opportunity occurs. It is just so in regard to introducing any other thing that I have helped. It is simply the opportunity. I go into it, and I know no other way to accomplish it. I have no contrivance about it. It is simply to do what comes before me, and do it with all my heart. I don't want to make any half-way work of it. Dr. Billings has said that when I took hold

of a thing I never let loose. Why should I? My old friend, A. B. Palmer, said once that I had been harping at the same thing for twenty years. My only answer to him was, If it is right and will benefit mankind, harp on it not only twenty, but forty years, until it is done.

"My friends, I don't want to tire you by reciting details. Please accept my most cordial thanks for this demonstration. It will probably be the last time I shall have an opportunity to address you. But if you want to promote harmony, cordiality, advancement; if you want to build up, stop pulling down anybody. Never pull down, but build up, and if your neighbor does not do as you think he ought to do, talk about his good qualities, and let his bad ones go. You will soon establish harmony; you will soon have cordiality; you will have your own heart free, and your conscience will be right before your God. You will have neither enemies here nor hereafter. I know no enemies to-night; I have no enmities; I am satisfied with life.

"I am sometimes lonesome because I so rarely meet one of my early comrades—lonesome because they are gone. But I am going to join them before long. I do not expect to tarry a great while. But I have no care about that. I live so that I am ready each day to go. I have no settlements to make; I have no great fortune to give away; I have got enough for my comforts, enough to clothe and feed me as long as I live. That is all I want. I would not die worth a hundred millions of dollars; I should be afraid I had not done my duty."

Dr. Charles A. L. Reed, of Cincinnati, was then introduced, and responded to the toast, "The American Physician."

Born to carve his name
Upon the highest pinnacle of fame.

Dr. Reed said in part: "It is appropriate that the American physician should be toasted at this festal board, around which are gathered from all parts of the great republic, American physicians who have come to honor one of their most distinguished and venerable living colleagues. To me has been assigned the pleasant task of responding to this toast. That duty would be easily discharged if I were simply to speak of the ideal characteristics of the American physician; for if I were to thus confine my remarks and speak only of birth, of education, of scientific attainments, of the lofty ideals of character, of the exemplification of Christian virtue, it would be necessary for me only to stand mutely in your presence and point to the distinguished guest of the evening. It may, however, be appropriate for us to consider the American physician from a concrete standpoint. If we were to consider him from his starting point, we must recognize the American physician at the time when the American physician was not an American physician. When, in other words, he was a distinct European product, practicing medicine upon the Western Continent. This was true in our Colonial period, but with the birth of nationality, there was also the birth of the American physician and the establishment of the medical school in the United States was an associated incident of the creation of the American physician. But the primitive medical school of America, like the original physician that stood as the type of the faculty of that institution, was largely of exotic origin. We devoted ourselves at that time to the teaching of science as it had been discovered, taught and amplified in foreign countries. English influence was dominant; French influence was pronounced; German influence had no footing at that time in America. But with the succeeding generations, the American physician became an established fact, a product of our schools, and we found him exemplifying, even in that early day, those attributes which have characterized the practitioner of medicine on this Continent—independence of thought, independence

NATHAN SMITH DAVIS, A.M., M.D., LL.D.

of action, yet always in conformity with the overriding, overpowering influence of law, not statutory law, of which there was none, but of those eternal laws that make for good, that make for truth, that make for happiness. But in the carrying out of these fundamental principles the American physician early dethroned personal authority and became an actor upon a scale of independence that has but rarely characterized the profession in other countries. . . . American medicine has added to the great sum of our knowledge. Science has been evolved by those practitioners in the remoter districts and towns. McDowell, in his little village in Kentucky; Sims, in the little town in Alabama; Batty, in the little village in Georgia; Wells, with his anesthesia in the little town of New Haven—all of them far removed from the influence of the schools—brought to the light of humanity those great truths which have done so much to relieve suffering humanity and to prolong human life." After referring to the struggle of physicians in the early days, Dr. Reed concluded as follows: "But little needs to be said for the American physician; from seaboard to seaboard, from lake to gulf, in every hamlet, he ministers to stricken humanity, and let me venture the belief that the American physician in the aggregate, wherever found, is actuated largely by those same motives, by those same deeply-rooted sentiments that Dr. Davis imbibed at the bedside of his dying mother. Let us, therefore, with all honor speak, not egotistically of ourselves, but of that great, typical character that we are constantly endeavoring to emulate, the American physician, than whom there stands before the American public, there stands before the world, no more distinguished or worthy exemplar than Nathan Smith Davis."

(Loud and prolonged applause.)

Dr. Donald Maclean, of Detroit, Mich., responded to the toast, "International Medicine."

> For the whole world is a stage—
> Let us hear of the acting.

He said he felt it was a great privilege to be present and take part in the exercises of the evening, and to pay his respects to his old and venerable and highly-respected friend, Dr. Davis. (Applause.) The subject of international medicine was one that reminded him of the lines written by one of the profession, Dr. Oliver Wendell Holmes, who said:

> "As Life's unending column pours,
> Two marshaled hosts are seen—
> Two armies on the trampled shores
> That Death flows back between.
>
> One marches to the drum-beat's roll,
> The wide-mouthed clarion's bray,
> And bears upon a crimson scroll,
> 'Our glory is to slay.'
>
> One moves in silence by the stream,
> With sad, yet watchful, eyes,
> Calm as the patient planet's gleam
> That walks the clouded skies.
>
> Along its front no sabres shine,
> No blood-red pennons wave;
> Its banner bears the single line,
> 'Our duty is to save.'"

He thought the above verses represented truly and fairly international medicine. The profession could never repay Dr. Davis, nor individually express their gratitude for what he had done, and we could say with the poet, Burns:

> The bridegroom may forget the bride whom he's to wed;
> The monarch may forget his crown;
> The mother may forget the child that smiles so sweetly on her knee;
> But I remember thee, Glencairn, and all that thou hast done for me."

Reminiscences of Dr. Davis were related by Drs. John H. Hollister, Frank X. Waxham, Norman Bridge, and Edmund Andrews.

The toast, "Western Medicine," was responded to by Dr. Archibald Church, who, among other things, said: "We do not, for a moment, think of Trousseau as hampered by the walls of Paris; nor Sydenham confined by the geography of London; nor Graves hampered by the purlieus of Dublin; nor Flint cooped up in the Island of Manhattan; nor is Davis limited to the confines of the city of Chicago. It is our privilege to-night; it is the privilege of the profession of America—nay, more, it is the privilege of the profession of the entire world—to read in the galaxy of clinical masters the name of Nathan Smith Davis."

(Loud applause.)

Dr. Victor C. Vaughan, of Ann Arbor, Mich., responded to the toast, "Medical Education."

> "Knowledge comes, but wisdom lingers."
> How, then, can best be told
> "The fairy tales of science, and the long
> Result of time?"

Medical education in this country, even at its best, is in somewhat a chaotic state. He had heard a great deal about the elective system in medical education, by which the student was allowed to select courses and take them in whatever manner he chose. Most of the leading literary colleges in this country had adopted the elective system; some of the medical colleges had also adopted it. He thought it was in consonance with American ways, namely, that every young man should have his choice, and that the man beginning the study of medicine had more wisdom than the man who taught it. After referring to the advantages and disadvantages of the elective system of medical education, the peroration of Dr. Vaughan was as follows: "Honored and most worthy guest: We come together to-night from near and from afar to give to you some outward token of our honor and esteem, and we have for you, who to-night has been fittingly called the Nestor of American Medicine, the greatest of respect. For more than threescore years you have labored diligently, worthily and successfully in our profession. Your life has been to us both an example and inspiration. To many here to-night and to thousands of others scattered over this broad country you have been a beloved teacher and an admired master. To all of us you have been and are still a respected older brother, and an honored friend. Your words have always fallen upon grateful ears; your deeds have ever been witnessed by approving eyes, and your friendship is cherished in many a loving heart. In our busy administrations to the sick; in our ceaseless search for truth in the laboratory, we seldom have the opportunity of expressing our appreciation for one another. But so great and so helpful has been the service that you have rendered to us, your younger brothers, that to-night we have come, laying aside our daily tasks, to offer to you a tribute of our love and admiration. Life is a mystery which it has not been given to man to solve. We know not whence we came, nor can we name the land to which we journey. But we do know, that he who lends a helping hand to his fellow-men, as we travel along life's dusty and stony pathway, is a benefactor of his race.

"There is a Hindu legend which accounts for the origin of our profession in something like the following manner: An intelligent Indian Prince in the time long ago sought one of the most renowned temples of Buddha, and prostrating himself upon the floor he prayed fervently and said, 'How can I best serve my Maker?' As he lay prostrate on the floor he felt a touch upon his shoulder as light as that of a babe, and he heard a silvery voice, saying, 'Arise!' He arose, and there stood before him a beautiful angel, who said: 'Dost thou serve thy God?' And he replied, 'Yes.' Then, go serve thy fellow-man; administer to the sick, heal the afflicted; help those that are in distress.' And thus the medical profession had its origin. Our worthy guest to-night is almost an ideal of that Indian Prince of whom this legend tells. May he have many worthy successors."

Dr. Hobart A. Hare, of Philadelphia, responded to the toast, "Literary Medicine."

> The last discovered fact:
> The winnowed grain of thought,
> Vividly portrayed in undying characters
> By the art Divine.

He said that as he sat at the table this evening he could not help thinking that he, one of the youngest, if not the youngest speaker to-night, should bring from the effete East a graceful tribute of admiration to the honored guest of the evening. He thought it was a triumph for the so-called Western profession, which, after all, was not the Western profession of the United States, for the reason that every portion of this great country had sent by mail or by wire and by personal represen-

tation some one who bore a portion at least of the loving cup to Dr. Davis.

Speaking to the toast, "Literary Medicine," he said that there was far more in it than some thought. It enabled the members of the medical profession to compare notes and ideas. It improved the culture of men who wrote articles, and it improved the culture and learning of those, as a rule, who read those articles, but not always. In THE JOURNAL of the American Medical Association we had a great exemplar of what literary medicine should be. Literary medicine was in close touch with medical education. It taught a large body of medical men to be general practitioners, and not to start out as specialists as soon as they had graduated. A great trouble with the medical profession of to-day is that there are too many men going into specialties because they knew nothing about ordinary medicine. Some one had well said: "I sought Happiness, and she constantly fled before me; weary, I turned to Duty's path, and Happiness sought me." It seemed to the speaker that Dr. Davis was a conspicuous example of that phrase. . . . We honor Dr. Davis because he represents to us professional ethics; because he represents to us duty well done; because he represents to us that greatest of all things, a great teacher; more than this, he carries with him, day by day, the thoughts of the minds and hearts of many more than are assembled here to-night, and he feels in his inner consciousness that he has achieved some things of which not only he is proud, but we are proud, and the American medical profession is proud. And therefore I repeat, as the representative of the so-called effete East, which has gained so much from the brawn and sinew of the mighty West, I come to-night to lay before you in your presence the loving tribute of our Eastern profession.

Dr. Edwin Ricketts, of Cincinnati, after referring to the good qualities of Dr. Davis, expressed the hope that he might yet be spared to see many years.

The last toast was responded to by Dr. Robert H. Babcock, of Chicago, it being, "The Physician in Public Affairs."

"For who is better fitted to study and correct the pathologic body politic?"

The speaker thought it was strange that physicians should be loth to enter politics lest they became defiled thereby, but he held that there was no class of individuals in the community who were so suitable to engage in public affairs as physicians. In the words of the toast, "Who is so suitable to study and correct the pathologic body politic?" Let the physician enter the field of politics, that he may curette away the part that is rotten. There was an ample field for the influence of medical men in a quiet way in political campaigns. We had an example of this in Kentucky, where the physicians throughout the State, by exerting their influence in a quiet way upon the politicians of the State, had rendered it impossible for a quack to practice or to advertise in the State of Kentucky. All honor to the State of Kentucky. He said we had among us some members of the medical profession who were engaged in political matters for the purpose of bringing about proper legislation along the right lines to curtail the so-called practice of medicine by quacks, charlatans, faith-healers, etc. There was ample room for the influence of physicians. But even if the physician had some ambition to hold office, it was right that he should, provided that his motives were pure. Physicians were needed in legislatures, not to support anti-vivisection laws, like Senator Gallinger, but to fight anti-vivisection laws, to fight anti-vaccination laws, and to obtain legislation for the benefit of public health. Perhaps the most brilliant example of the physician in politics is Rudolph Virchow. What shall we say of our great American physician, Benjamin Rush? He was not only a great physician, but he was a member of the Continental Congress, and chairman of the committee appointed to consider the expediency of the Declaration of Independence. He had the honor of reporting favorably upon the Declaration, and it is thought that many of the phrases used in the Declaration of Independence emanated from Rush. Had he not won undying renown as a physician, he would have been immortal as a signer of the Declaration of Independence. The speaker said that there had been others and were others to-day who were engaged in public affairs not only with credit to themselves, but with honor to the medical profession, and to the welfare of their State. Some of these occupied comparatively insignificant positions, perhaps, but they were doing good work.

Dr. Babcock, after referring to the good work that had been done by Dr. Davis in public affairs, concluded by saying: "As an alumnus of the old Chicago Medical College, I call on you to rise, and, in that beverage which Dr. Davis loves and has continued to pledge his life, drink to his health."

At this juncture the entire audience arose, put the glasses to their lips, and, after the following sentiment expressed by Dr. Davis, drank to his health: "Here is to pure water, Nature's universal aseptic; it muddles no brain; it begets no anarchy; it sparkles on the dew-drop; it gives peace to the nation; it flows in the river of life, and it flows by the throne of God. Let us take it, not only as guests here, but for the whole profession of America."

The audience then arose and sang "Auld Lang Syne."

Societies.

COMING MEETINGS.

New York State Medical Association, New York City, Oct. 21-24, 1901.

Medical Society of Virginia, Lynchburg, Nov. 5-7, 1901.

Oklahoma Territory Medical Association, Oklahoma City, Nov. 13, 1901.

Southern Surgical and Gynecological Association, Richmond, Va., Nov. 19, 1901.

Mahoning County (Ohio) Medical Association.—At the meeting of this body at Youngstown, September 27, resolutions were passed in memory of Dr. Charles N. Fowler and John Eliot Woodbridge, members of the Society.

American Electro-Therapeutic Association.—This Association, which met at Buffalo, N. Y., September 25 and 26, for its eleventh annual session, elected the following officers: Dr. Frederick H. Morse, Melrose, Mass., president; Drs. Daniel R. Brower, Chicago, and Alfred T. Livingston, Jamestown, N. Y., vice-presidents; Dr. Richard J. Nunn, Savannah, Ga., treasurer, and Dr. George E. Bill, Harrisburg, Pa., secretary.

Muskingum County (Ohio) Medical Society.—This Society held its annual meeting at Zanesville, September 13.—The following officers were elected: Dr. J. C. Crossland, Zanesville, president; Dr. A. Dunn, Stovertown, first vice-president; Dr. G. Warburton, Zanesville, second vice-president; Dr. W. C. Batelman, Zanesville, secretary; Dr. C. E. Drake, Zanesville, treasurer, and Dr. C. U. Hanna, Zanesville, corresponding secretary. The Society voted to give a complimentary banquet, in November, to Dr. Edmund C. Brush, president-elect, Ohio State Medical Society.

MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.

Fifty-first Annual Meeting, held in Philadelphia, September 24-26, 1901.

President, Dr. Thomas D. Davis, Pittsburg, in the Chair.

(Continued from page 930).

SECOND DAY, MORNING SESSION.

Delegates from the N. Y. State Association.

The second day of the meeting was opened by the President and called to order at 9:30. Drs. Frederick Holme Wiggin and E. Eliot Harris, delegates from the New York Medical Association, were introduced. Dr. Wiggin said that their medical organization was formed by a federation of the county associations. One feature in the association was the divorcement of executive and scientific work; the former occupied usually the first day of their annual meetings, the latter occupying the remaining days. From an observation of the methods of the Medical Society of the State of Pennsylvania they had changed the publication of their Transactions, making it now a monthly journal rather than annual. The matter of giving polyclinic teaching to smaller county societies, as carried

on in the Medical Society of the State of Pennsylvania, was also favorably commented upon. In view of the contemplated publication of a medical directory by the Pennsylvania Society similar to the one issued by the New York Medical Association, Dr. Wiggin said that the Directory had proven to be exceedingly valuable in medical circles, and promised to be successful also financially.

Dr. Harris said that Dr. Wiggin had spoken in accord with his own views, but emphasized the important factor that the county society was the central unit of the organization of the New York State Medical Association.

Dr. Wiggin further expressed the hope that the publication of such directories might suggest to the American Medical Association the publication of a National directory.

The Chairman of the Committee to suggest Changes to the By-laws, Dr. M. Murray Weidman, read the report, which was ordered printed and the Committee continued. Among the proposed changes is the provision for the formation of an executive committee which takes the place of the old Committee on Nominations, and is practically the legislative body of this Society. There is also the proposition for the collection and compilation of a list of all legally classified practitioners within the State.

Address in Medicine.

Dr. John B. Donaldson, of Canonsburg, said the present century's achievements promised to far outstrip the past. Internal scientific medicine with preventive means shall be the work of the medical world. Surgery, the brilliant half sister of Medicine, would go hand in hand with her in the crusade against disease, and that the profession might certainly look for other Jenners to arise who will eliminate many of the fatal but preventable diseases of our day. The hope was expressed that in the great Keystone State of Pennsylvania, the present century might see legislative bodies willing to legislate in the interests of indigent tubercular patients. The relief for these patients was an important field, to his mind, toward which the minds of our philanthropic millionaires might be directed. Ere long he believed that there would be an end to the so-called different schools of medicine, for all would be compelled to practice rational and intelligent medicine.

Dr. J. Dutton Steele, Philadelphia, read a paper on "Gastroptosis and Its Treatment."

Movable Kidneys; Their Effect on the Gastric and Intestinal Functions.

Dr. Boardman Reed, Philadelphia, maintained that nephroptosis was frequently one feature of a general sagging downward of a number of abdominal organs. Movable kidney is confined almost entirely to the female sex and is very prevalent. Prominent symptoms are pain or sensitiveness on pressure over the site of the displaced kidney and certain dyspeptic symptoms and nervous symptoms often result. In the severe cases with much pain complete rest in bed is advised, with later the support of a well-fitting pad and belt with special exercise and cautious massage to the abdominal muscles. Out-of-door air and tonic treatment, etc., are also urged. Where these measures are impracticable, or have failed, nephropexy should be done.

Dr. R. H. Gibbon, Scranton, regarded the application of a pad to a loose kidney a mistake. This had been pointed out by Edebohls, who laid great stress upon the fact of appendicitis having been frequently caused by a loose kidney displaced downward causing interference with the superior mesenteric vein resulting in congestion and inflammation. He believed that surgical treatment was the proper method in the majority of cases. The only external device of value in his opinion was the Cardigan corset, with the lacing reversed, i. e., beginning at the bottom.

Dr. Charles P. Noble said his personal experience had been limited to surgical treatment. When the mobility did not exceed two or three inches he believed the rest cure with general tonic treatment was useful. If the urinary symptoms were negative the case required little attention. Marked symptoms showing congestion of the kidney indicated nephrorrhaphy.

Enteroptosis.

Dr. John G. Clark, Philadelphia, dealt more especially with the mechanical part of the treatment. He felt that in the majority of cases the more conservative plan should be first tried. He had seen cases in which there was a general sagging of the pelvic floor with retrofixation, and in which not infrequently after operation the patient complained of the dragging sensation. He referred to the article by Webster, of Chicago, which he regarded of signal interest. Models were shown illustrative of the abdominal wall muscles looking from the front and from the back and the pathology demonstrated.

Dr. Gibbon, of Scranton, thought the fibrous sheaths of the muscles were at fault rather than the muscle tissue itself.

Report of Cases of Infective or Malignant Endocarditis.

Dr. A. O. J. Kelly, Philadelphia, said that during recent years our ideas concerning the nature of acute endocarditis had undergone considerable modification. Formerly it was customary to distinguish two forms of acute inflammation of the endocardium: one a benign, non-infective process, ending in the recovery of the patient, though usually with permanent damage to the valves affected; the other a malignant destructive infective process running a comparatively short course and ending in the death of the patient. It had long been observed that clinically the differential diagnosis between the two forms is sometimes attended with considerable difficulty. It had been ascertained that all cases of acute endocarditis are associated with, if not due to, bacteria; that the same bacteria are found in cases associated with ulceration as in those that are not, and the necessity for revision and modification of our conception of acute endocarditis became apparent to all. Three factors of diagnostic value were: 1, leucocytosis; 2, bacteriologic examination of the blood; 3, irregular heart murmurs.

Dr. A. E. Roussel referred to three cases of endocarditis occurring in his practice, two of which possessed features resembling those of Dr. Kelly's second case. In a girl of 19 the diagnosis of malignant endocarditis of the ulcerative type was confirmed by death. In many of the cases he thought it might be well to leave off the term "ulcerative" altogether; in many of the cases the tissue changes have gone as far as death without the presence of ulceration. The term "malignant" would seem to cover the ground. On the other hand, this term might be objected to because some of the cases got well; these were a small minority, however. A point of great interest in the second case was the progressive enlargement of the spleen. Leucocytosis was also marked. The third case was of interest in that it followed miscarriage and presented all the symptoms of a profound septicemia. The blood was taken from the vein, and Dr. Roussel emphasized the importance of taking a large amount of blood for examination bacteriologically.

Dr. J. M. Anders spoke of the difficulty in diagnosis in the two forms of endocarditis and emphasized the great importance of studying the cases minutely by the application of the most modern methods. He thought some value should be placed upon the presence of murmurs, even in so-called ulcerative endocarditis. Of more importance was the embolic phenomena. His constant rule was to carefully eliminate all affections simulating ulcerative endocarditis, particularly typhoid fever and the allied diseases.

Dr. James Tyson thought if the process were looked upon as a pyemic one in which the heart valves become the objective point of the bacterial effect the question would be greatly simplified.

A Few Notes on the Salts of Sulpho-Carbolic Acid.

Dr. Edgar Moore Green said that although the sulpho-carbolates are supposed by some to be "inert," a few of them seem to be excellent intestinal antiseptics. The sodium, potassium and ammonium salts are those that have been most used by the author. One of the most satisfactory methods of administering the sulpho-carbolates is in pill form with enteric coating, because the drug then reaches the intestine and does its work at the proper place. He advocates sodium sulpho-carbolate with acetanilid for the relief of headache associated with deranged digestion. Zinc sulpho-carbolate has been used with advantage in diarrhea.

Primary Abdominal Tuberculosis.

DR. LAWRENCE F. FLICK, Philadelphia, defined the condition in question as the primary existence of a tubercular colony in some tissue or organ within the abdominal walls. The general belief that tuberculosis began in the lungs was, he said, based upon the common experience that the first recognition of the disease is in the lungs; not until these organs are affected do the classical symptoms occur. The observations of pathologists and surgeons have proven that tuberculosis does frequently occur primarily within the abdomen; in what percentage is yet undetermined. Diagnosis is often impossible, and in this direction surgeons and gynecologists could aid much. Frequent discussions of the subject were urged. The question of treatment is still unsettled; men of the largest experience recommend early surgical intervention. As an alternative to this the building-up treatment is advocated by others.

DR. JOSEPH PRICE said that if the surgeon could see these cases the treatment would be very simple and, as they often had occasion to think, very fortunate. For a number of years he had never refused to open the abdomen for intraperitoneal tuberculosis, whether ovarian, tubal, general, or whatever nature. He considers iodoform abundantly used of great value. The condition of abdominal tuberculosis he considered one which justifies excessive and undue liberty intraperitoneally, and which could be undertaken in no other condition. Iodoform should be used freely and drainage employed, either pelvic or general.

DR. MORDECAI PRICE expressed his belief that the infection occurred through the lymphatics and the blood, through some disorganization of the digestive tract with the food infected with tuberculosis. He had seen several cases apparently directly traced to the milk product. In diagnosticating intraperitoneal trouble where there was slow emaciation he believed it was the urgent duty of the surgeon to open the patient and investigate.

DR. JAMES TYSON stated that in the difficult diagnosis the tuberculin test presented an infallible test.

DR. S. SOLIS-COHEN said that the use of iodoform in a clinical experience extending over a great many years had convinced him of its value in combating tuberculosis, internal or external. In the internal administration the secret of its efficacy is in the gradually increasing dosage, taking some three or four months to reach a maximum. The question of etiology was important. With the conflicting theories as to the transmission of human and bovine tuberculosis the etiology was unsettled. That human tuberculosis can be transmitted to cattle, or bovine tuberculosis transmitted to man, he thought there was sufficient evidence upon record from careful observations in the clinic and laboratory to make the profession very careful at this time not to give the impression that such transmission is not possible.

Dr. FLICK, in closing, stated that the tubercle bacillus could enter the alimentary canal through other sources than food and milk; the bacilli entering the respiratory tract might lodge in the pharynx and be swallowed; these bacilli might be from a consumptive as easily as from food and milk. In the same way the germs could be carried into the bronchial glands, the thoracic duct and into the circulation. He laid special stress upon the value of iodoform and the preparations belonging to the same group.

Election of Officers.

The Nominating Committee made the following nominations, which were elected: President, Dr. F. P. Ball, Lock Haven; first vice-president, Dr. Walter Lathrop, Hazleton; second vice-president, Dr. A. S. Harshberger, Lewistown; third vice-president, Dr. R. W. Stewart, Pittsburg; fourth vice-president, Dr. J. K. Weaver, Norristown; secretary, Dr. C. L. Stevens, Athens; assistant secretary, Dr. W. B. Erdman, Macungie; treasurer, Dr. G. B. Dunmire, Philadelphia.

Dr. G. W. Guthrie, Dr. W. Murray Weidman, Dr. W. S. Foster, and Dr. A. P. Hull were elected Delegates to the House of Delegates of the American Medical Association, to serve for two years. Dr. W. T. Bishop, Dr. John B. Roberts and Dr. H. S. McConnell were elected Delegates to serve for one year. Sixteen Alternates were elected, and it was recommended by the Committee that Dr. William M. Welch, of Philadelphia, should be selected to serve as the fourth delegate to serve for one year, should the Society be entitled to eight delegates.

SECOND DAY—AFTERNOON SESSION.

Address in Hygiene.

DR. E. B. BORLAND, Pittsburg, called attention to the need of special hospitals for the care of smallpox, diphtheria and scarlatina patients in population centers above 1000. Improperly prepared food was accounted responsible for much disease and intemperance. The advertisements of patent medicines, medical frauds and shams were accredited with the first suggestions to lives of crime and shame. About 20 per cent. of the commonwealth, it was stated, used normal water; 50 per cent. admissible, and 30 per cent. suspicious or dangerous. Preventive medicine was declared to be as exact a science as clinical medicine.

Histories of Three Accidents in Tapping the Chest.

DR. J. C. LANGE, Pittsburg, reported in detail three cases of accident; the first was one of instant death following the entrance of an aspiring needle through the seventh intercostal space at the posterior axillary line on the left side. The second patient was a man, aged 23, with history of croupous pneumonia two years previous, from which he had failed to regain his former excellent health. A cure was effected, and at the present time, two and one-half years after, there is no sign of thoracic disease, except an appreciable lack of fulness in the subscapular region as compared with the other side, and a difference in expansion of one and one-half inches in favor of the latter. The third case was that of a female, aged 58, with biliary cirrhosis, taken with acute pleuritis of the left side. Restoration to amount of health compatible with the liver lesion ensued, and in about a month she returned to her home in California. Death occurred sixteen months later without any complications of liver disease.

Reforms in Medical Education.

DR. H. M. SHALLENBERGER, Rochester, stated that the standard of equipment of the average graduate of medicine in the United States for the practice of his profession, is very low compared with the graduates in other departments of science or the polytechnic schools. A few questions and answers from papers submitted by graduates to the State Board of Examiners were given, which exposed blundering incapacity, lack of intelligent comprehension of the subject, bad construction of sentences, faulty spelling, etc., on the part of the student. Two remedies were suggested: 1, a preliminary examination of students, admitting only those who have had an adequate education; and 2, a change in the curriculum, giving a uniform standard in all colleges, embracing a comprehensive course of study and including all collateral branches, with special stress on clinical and bedside instruction.

DR. E. B. BORLAND, Pittsburg, emphasized his belief in raising the standard of medical requirements. He believed, too, that the individual ought to be examined to ascertain his fitness for the study of medicine before it was undertaken. He thought the idea of examinations might well extend to members of faculties, and to members of the State Board of Medical Examiners. He was in favor of examining "all the way round, beginning with the student asking admission to the medical school."

DR. J. C. BATESON, Scranton, was in favor of higher medical education. He believed that it should be general, that every one should be measured by a certain standard in order to practice the healing art, whether christian scientist, faith curist, osteopath, or of whatever sect.

DR. HENRY BATES, JR., said that the responsibility of the Medical Society of the State of Pennsylvania is great, and not a member should be indifferent to his influence to attain a higher standard of medical education. Commercialism is rife and permits the admission of men as students who are utterly incapable of comprehending the science of medicine. Defective and chaotic instruction is all too evident.

The Duration of Immunity from Diphtheria Antitoxin.

DR. HENRY D. JUMP, Philadelphia, gave as his experience the injection of 500 units when the patient had been exposed. He had thus used the injection of the antitoxin in the cases of twenty children and no accident had occurred. It was his custom to isolate the sick person, disinfect the room, and remove well persons, each being given an immunizing dose. Illustrative cases were cited.

Lay Medical Education.

DR. E. N. RITTER, Williamsport, believed that the school teachers are sufficiently trained to impart proper instruction to pupils in the lower and intermediate grades, but physicians should be employed to instruct advanced pupils in hygiene, physiology, human anatomy and venereal diseases.

Strength.

DR. JOHN M. BATTEN, Downingtown, had reference to a person with healthy organs, consequently a person in perfect health. Such a parent governs the sex of his or her offspring; if the father were strong, the sex of the offspring will be a female; if the strength of the mother prevail, the offspring will be a boy.

The Veriform Appendix.

DR. EDMUND W. HOLMES, Philadelphia, presented this paper, with accompanying specimens, which was based mainly upon the examination of 110 adult appendices. He recounted the four varieties of cæca according to Treves, and in the 110 cases, he had found of the first variety; 1 of the second; 96 of the third, and 12 of the fourth. He pointed out the natural tendency of the cecum to swing round the ileo-cecal valve as a pivot, carrying the appendix toward the left. Toward the left, therefore, should search be made for the base; the ileo-cecal valve itself is a valuable landmark in cases of doubt, when the usual band is indistinct, as the appendix may be found close to it or even behind it or without a meso adherent to the post-cecal wall. The appendicular artery, he explained, is usually single, running on the edge of the meso, but there may be two or more branches coming directly from the posterior trunk of the ileo-colic, requiring separate ligation. The length of the displacement of the appendix, or mayhap displacement of the cecum and colon en masse, may account for anomalous symptoms. The palpation of the appendix through the abdominal wall may be fallacious, owing to contact of the fingers with the psoas magnus muscle, or to the displacement of the colon, cecum and appendix to the median line.

The Doctor's Fee; Is It Fixed and Definite?

DR. L. J. LAUTENBACH said that the doctor's reputation, skill, time consumed, risk incurred, and responsibility assumed influenced the amount of his fee. It is also controlled by the patient's standing, his obedience and the result of the treatment, as well as the general, social and financial condition of the community and the reputation and skill of his brother doctors. One influence in the reduction of the fees of the family doctor was the fact that fraternal societies supply the doctor and medicines to members at a nominal cost. Fees apparently high are usually determined by elements unobserved by the public. It was said that a lawyer or an architect might get fabulous prices, yet should a doctor charge a man $5,000 for saving him from the grave, but few would gratefully pay it. A fair price should be charged in every case, and such fees, if not paid, should be collected.

Therapeutic Notes.

DR. LINNAEUS FUSSEL, Media, called attention to a few remedies which appeared to him of great value.

Some Respiratory Conditions Dependent Upon Gout and Obesity.

DR. J. M. ANDERS, Philadelphia, stated that the abnormal conditions presented by the lungs in obesity has not received the attention it deserves. The symptom dyspnea, so common in the anemic variety of obesity, he attributed largely to mechanical interference with the respiratory function, though muscular and hematologic changes shared in the causation. In the plethoric form of polysarcia the dyspnea is often surprisingly slight. Pain in the subscapular and intrascapular muscles may be acute, and it deserves attention. One patient had described it as a feeling as though the "flesh had grown fast to the bones." The pain may be localized, but commonly extends across the back. Hyperemic bronchitis, with troublesome cough and copious mucoid expectoration, occurring in over-fatness was described. Closely connected with this bronchitis is asthma, due in great part to transient insufficiency of the heart muscles; there is also an asthma in this connection, due to gastric disturbance, particularly seen in patients of gluttonous habits. His tentative conclusions concerning the relation of asthma to polysarcia were: *a*. That asthma occurs in about 5 per cent. of cases of obesity; *b*. That it only occurs in extreme polysarcia; *c*, that there is a gouty state or history in most cases in which true asthma is secondary to obesity; *d*, that about 50 per cent. of the cases are curable by overcoming the causative condition. In conclusion attention was called to chronic bronchitis, associated with latent gout or a lithemic state. For success in the management of the cases, the prime requisite is to include the recognition of the cause under the head of diagnosis so that the line of conduct may be adapted to it—the lithemic state.

A Medical Examination as a Prerequisite to Marriage.

DR. J. C. BATESON, Scranton, referred to the many thousands of unhappy marriages contracted every year. Instead of regarding these as the natural result of violated physical law, many good people piously criticise the severity of Providence. Hereditary influence is too lightly considered by society. The question has been agitated by the writer since 1895 and he has much satisfaction in the knowledge that the scientific regulation of marriage has been proposed and acted on in several state legislatures. He believed that the only logical and effectual course to uproot this social evil is in the enactment and enforcement of a law requiring all applicants for marriage to pass a medical examination, before an authorized board composed of men and women and containing at least two physicians.

The Diagnosis of Lesions of the Aortic Orifices, with Special Reference to Functional Aortic Insufficiency—Pseudo-Leukemia, with Enlargement of the Liver and Spleen, Due to Lymphatic Tuberculosis—A Case of Typhoid Fever Complicated by Noma, with the Demonstration of Diphtheria Bacilli in the Necrotic Area.

DR. JOSEPH SAILER, Philadelphia, in presenting these papers gave a mere outline of the second case. He referred to General Sternberg's investigations in this condition. He had found in all, fifteen cases in which the lymph glands showed peculiar histologic enlargement and tubercle bacilli could be found by the usual staining method. These investigations were not the first, but the most important, in that, here the first systematic effort had been made to prove that pseudo-leukemia of a certain peculiar type was not a blood disease, but an infectious disease, and that the infection was produced by the tubercle bacillus. The number of cases reported is only about thirty in all. In the short space of six months six such cases had come under Dr. Sailer's observation, in four of which it was possible to confirm the diagnosis before death; in two by the autopsy. The general features of the cases were given. In one case the liver was distinctly enlarged for two years and in nearly all cases it was exquisitely tender. The temperature chart exhibited, showed a singular irregularity occurring nowhere else except in chronic pyemia, the cases being differentiated by the absence of leukocytosis. The pathologic changes were given. He called attention to this group of cases, peculiar, because very few had been recorded, but he thought with those who had written upon the subject that they escape recognition because the pathologic changes are not invariably those indicating the existence of tuberculosis and the clinician is probably satisfied with the diagnosis of leukemia or Hodgin's disease.

(To be continued.)

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment will be answered in these columns.]

Local Treatment in Chronic Prostatitis.

A. H. Leuf, Philadelphia, in *Med. Council*, states that for local treatment of the prostate, those preparations containing iodoform or iodol or ichthyol are efficient pain relievers and reducers of congestion. In diffuse chronic inflammation of the prostate, larger quantities of these drugs may be used per rectum, and, if there is much pain, especially if so severe as to cause loss of sleep, these may be combined with opium and belladonna. The following is recommended by him as giving prompt relief:

R.	Iodoformi		
	Ichthyol, āā	3ii-iv 8-16	
	Ext. opii	gr. xii	75
	Ext. belladonnæ	gr. iii	20

M. Ft. suppos. No. xii. Sig.: Insert one into the bowel as often as may be needed to relieve pain.

He further states that counter-irritation may in some cases serve a useful purpose when applied to the perineum and hypogastrium in the form of sinapisms or blisters; however, such procedures should be omitted in the treatment of such conditions in the aged.

Treatment of Malarial Hepatitis.

Lemanski, as noted in *Amer. Med.*, advises the avoidance of alcohol as of prime importance in the treatment of malarial hepatitis. Arsenic, quinin and the alkalies are of great service used as follows:

R.	Sodii cacodylatis	gr. ⅛	008
	Pulv. cinchonæ		
	Sodii bicarb., āā	gr. viii	50

M. Ft. cachet No. i. Sig.: One such, three times a day. He recommends at the same time free purgation and prescribes the following for that purpose:

R.	Hydrag. chloridi mitis	gr. xii	75
	Pulv. cascaræ		
	Pulv. rhei, āā	gr. ix	55
	Pulv. belladonnæ	gr. i	06

M. Ft. capsulæ No. iii. Sig.: One capsule every fifteen minutes in the morning.

To Check Gastric Fermentation.

The following is recommended by Ewald to prevent the process of fermentation in the stomach:

R.	Resorcin	gr. lxxv	5
	Bismuthi salicylatis		
	Pulv. rhei rad.		
	Sodii sulph., āā	3iiss	10
	Sacch. lactis	3iv	15

M. Ft. chart. No. i. Sig.: One half teaspoonful twice daily.

Local Anesthesia in the Ear.

Dr. H. Dupuy, New Orleans, in *Laryngoscope*, recommends the following as an anesthetic for the drumhead in order that a free incision of the membrana tympani may be made:

R.	Cocainæ	gtt. v-x	30-60
	Alcoholis (pure)	3i	4
	Olei amlin	3i	4

M. Sig.: Drop a few drops into the ear. This will produce complete anesthesia in a few moments.

Furuncle in the Ear.

Furuncles originating in the aural passage give rise as a rule to excruciating pain and earache. The *Med. Record* publishes the following for local use under such circumstances:

R.	Zinci oxidi	3i	4
	Acidi carbol.	gr. x	66
	Vaselini albi	℥i	32

M. Ft. unguentum. Sig.: Insert a cylindrical tampon of cotton wool, covered with the ointment, into the canal.

This tampon should be large enough to produce considerable pressure. The greater the swelling, the greater should be the pressure made by the tampon. The pain is at first severe, but disappears after a few moments; if not, insert smaller tampon. Before tamponing, use antiseptic douche and repeat daily.

The Proper Method of Using Spartein.

S. Solis-Cohen, in *Amer. Med.*, states that spartein occupies a high place among cardiac tonics and diuretics. He states, however, that the general practitioner is disappointed many times in its use because of improper dosage and methods of administration. In his opinion, in order to obtain the full effect of spartein, especially as a diuretic, it is necessary to begin with rather large and oft-repeated doses. For example, grain one-half to grains two may be given hypodermically every second hour, for three or four doses; after that the drug may be given by the mouth in gradually lessened quantities and at increased intervals, until after three or four days the patient is taking grain one-half three times a day by the mouth, and after a week's time ¼ grain three times a day, with now and then an administration of one or two large doses. In following this method of administration the effect upon pulse, in its tension and frequency, as well as the cardiac force, must be watched closely to avoid overdosing or underdosing. When the patient is not bedridden such large doses are not to be advised; one should then begin with ½ grain four times a day and increase or diminish the dose according to the effect, keeping in mind that the point is to get the patient rapidly under the influence of the drug by the maximum dose tolerated and then prolong the effect by the minimum dose effective.

Tannin and Bromin in Treatment of Pruritus.

Joseph, in *Med. Standard*, states that an ointment containing bromin and tannin is of great service in the treatment of all forms of pruritus. The bromin, according to his statement, is used for its anesthetic properties and the tannin for its astringent effects. He prescribes an ointment composed of bromin 20 per cent. and tannin 40 per cent. He states that the action of this ointment is increased by the alkaline secretion of the skin, without producing any irritation. He uses as a base a 10 to 30 per cent. jelly.

Use of Menthol in Gastritis.

G. E. Campbell, in *St. Paul Med. Jour.*, has used menthol in cases of gastrodynia eructations, distension, cardiac distress and vomiting. He states that the object in such conditions is to neutralize the excessive acidity and relieve the hypersensitiveness of the organ. He recommends, to meet these indications, the following combination:

R.	Menthol	gr. ⅛ to ii	008-12
	Sodii bicarb.	gr. x-xv	66-1

M. Ft. chart. No. i. Sig.: To be given one-half hour before meals. He recommends the administration of pepsin after meals in some form.

Cocain in Treatment of Pain in Gastric Cancer.

The following combination has been recommended in relieving the pain in cases of carcinoma of the stomach:

R.	Cocainæ hydrochlor.	gr. ss	03
	Morphinæ hydrochlor.	gr. 1/6	01
	Aq. calcis	℥iii 96	

M. Sig.: One coffeespoonful every hour in a tablespoonful of iced milk.

An ice bag may be placed at the epigastrium to aid in relieving the pain.

Treatment of Croupous Pneumonia.

A. Pitzold, in *Deutschcs Arch. f. Klin. Med.* states that he has successfully employed quinin in the form of subcutaneous injections for the past three or four years in the treatment of pneumonia. He is of the opinion that it acts as a sort of antitoxin for the poison, as such marked improvement in the general condition of the patient takes place. He used daily injections of seven and a half grains (.5) of the hydrochlorate of quinin. This is the most soluble salt of quinin, being soluble in 34 parts of water.

Sodium Cacodylate in Chorea.

Lannois, in *Rev. de Ther.*, has used sodium cacodylate instead of arsenic in the treatment of three cases of chorea. He used the drug hypodermically, beginning with grain one-third and increasing to grain two-thirds. He reports that all the cases recovered in from one to three weeks.

Treatment of Chronic Rheumatism.

R.	Acidi arsenosi	gr. iii	12
	Pulv. guaiaci	ʒiii	12
	Pulv. capsici	ʒss	2
	Pil. aloes et myrrhæ	ʒiii	12

M. Ft. pil. No. xx. Sig.: One pill twice daily.

Treatment of Psoriasis.

Morgenstern, as stated in *New York Med. Jour.*, gives the following prescription to be used locally in the treatment of psoriasis:

R.	Acidi salicylici	gr. xii	75
	Sulphuris precip.	ʒi	4
	Zinci oxidi		
	Amyli, āā	ʒii	8
	Vaselini	ʒv	20

M. Ft. ung. Sig.: To be applied locally once or twice daily.

Treatment of the Toxemia of Pregnancy.

To employ intelligent treatment in the foregoing condition, good judgment and a thorough knowledge of the actions of drugs must be had, especially in those cases where organic disease of the heart is present. The elimination and the eliminating organs must be carefully watched and frequent estimations made of the work done by the kidneys. Marx, in *Med. Rec.*, states that the amount of urea should be estimated often as it is always diminished in true toxemia of pregnancy. He further states that progressive diminution of urea elimination with or without albuminuria is an indication for the induction of premature labor. He recommends as diuretics in such conditions the refrigerant diuretics of the sodium class (not the potassium salts which are too depressing) with an infusion of buchu or triticum. Digitalis is contraindicated because of the digitoxin present, which is a renal irritant. The most valuable drugs are the vasodilators, such as nitroglycerin amyl nitrite and sodium nitrite. As true heart tonics, he prefers spartein and the caffein salts and strychnin, to be used when there is a low tension pulse.

J. C. Webster, Chicago, in those cases in which approaching toxemia demands rapid induction of labor and which are complicated by organic heart lesions—such as a double mitral lesion—uses chloroform as an anesthetic, to which is added a small amount of amyl nitrite. In his opinion the great danger to the patient is in the third stage of labor, and in this stage he orders an inhalation of pearls of amyl nitrite in order to secure the most complete dilatation of the peripheral vessels. Under such circumstances lacerations may be a power for good in relieving pressure by bleeding and no measures should be taken to produce contractions of the uterus, consequently the administration of ergot is non-indicated.

The Use of Ergot After Labor.

The *Lancet-clinic* states that the value of this drug has been overestimated, that it has not stood the claims of its adherents. The question is asked, why use ergot in normal labor when viability of the mother is good and the fundus of the uterus can be felt as a hard firm ball over the symphysis? It is stated by the author of the foregoing that he has used ergot about five times in the last one hundred cases and has practically discarded it on account of its disagreeable taste, its tendency to cause nausea and the unreliability of its action. Its effects are not constant. Many authors claim that it limits the danger to postpartum hemorrhage, diminishes the force of after pains and lessens the tendency to accumulation of putrid material in the uterus and thus lessens the tendency to puerperal infection. Putrid material in the uterus after labor generally means infection contracted at the time of delivery and all the ergot at our command could not do the good that a thorough aseptic washing of the uterine canal would produce.

Treatment of Alcoholism.

Dr. J. L. Howard, in *Med. Council*, recommends the following to be substituted for alcohol in habitual drinkers:

R.	Tinct. nucis vomicæ	ʒss	16
	Tinct. capsici	ʒi	32
	Ext. lupulini flu.	ʒiii	96
	Inf. gentianæ comp.	ʒiss	48

M. Sig.: One dessertspoonful three or four times daily, well diluted.

Medicolegal.

Fifteen Thousand Dollars for Death of Physician.—The second appellate division of the Supreme Court of New York holds, in the case of Ericius vs. the Brooklyn Heights Railroad Company, that it can not be said that an award of $15,000 damages is excessive, for causing the death, through negligence, of a physician about 50 years old, who was earning in the practice of his profession, $175 a month.

"Serious Illness" in Contract of Life Insurance.—The Supreme Court of South Carolina accepts, in the case of Drakeford vs. the Supreme Conclave, Knights of Damon, of the construction, in a contract of life insurance, of the term "serious illness," used in the application, as meaning something that injures a person permanently—any permanent impairment or material impairment of health, it being said that a sickness might be very bad and very sad, and yet not serious.

Admissibility of Non-Expert Opinion as to Imbecility.—A non-expert witness who has had adequate means of becoming acquainted with the mental state of a person whose sanity is in issue may, no doubt, the Supreme Court of Louisiana says, in the case of State vs. Smith, give his opinion, based upon facts to be stated by him, as to whether such person was insane at the time of a specific occurrence. And it thinks that such an opinion would be admissible, subject to the limitation mentioned, upon the question whether the person inquired about had been insane or had been an imbecile throughout his life. But, without the limitation, it would not be admissible. In other words, the court holds that the opinions of non-expert witnesses as to the imbecility or insanity of the accused are admissible only in connection with testimony as to the facts upon which such opinions are predicated.

Occurrences at Medical Examination as Evidence.—It does not need the citation of authorities, the fourth appellate division of the Supreme Court of New York says, in the personal injury case of Jones vs. the Niagara Junction Railway Company, to show that evidence as to what takes place upon the medical examination of a party as to the injuries which he has received, so far as they are the natural expression of pain or inability to do certain things, is competent. It is quite true, it adds, that to a certain extent these expressions may be feigned, but it is for the jury to say, upon the testimony in the case, whether they are the usual actions of one who is expressing involuntarily the sensation that he feels, and so far as they are simply that they are competent, and their admission does not violate any well-settled rule.

Summoning of Surgeon by Conductor of Wrecking Crew.—The Appellate Court of Illinois, Third District, says, in the case of the Chicago & Alton Railroad Company vs. Davis, that the rule is well settled in this state that where an accident happens to an employe of a railroad company, the local surgeons of the company are not in the vicinity, and the condition of the injured man requires prompt medical attention, that the representative of the company in authority at the time and place of the injury has the right to employ medical assistance. If a doctor is sent for by such representative of the company, and, at his instance, performs professional services for the injured employe, the company will be liable to pay for such

service. So, where an employe was badly injured and an emergency for prompt medical aid existed, and the man in supreme authority at the time was the conductor of a wrecking crew, who directed another man to call a doctor, and the latter performed the service in response to such call, the court thinks that the physician had a clear right of recovery for such services in an action against the railroad company.

Powder Marks and Medical Jurisprudence.—It is competent, of course, says the Supreme Court of Alabama, in the murder case of Timothy vs. State, to put in evidence passages from standard medical works pertinent to wounds and personal physical conditions under inquiry. But a passage from a work on medical jurisprudence containing an account of certain experiments made by two third persons with guns at various distances to determine how far from the target the weapon would have to be to leave no powder marks, and the conclusion of the author from such experiments, the court does not consider of that character. It says that it does not pertain to the science of medicine or surgery. Men of those professions are no more competent to make such experiments and draw conclusions therefrom than other men, and their opinions in the premises stand upon the same evidential plane as the opinions of laymen, and are to be received in the same way and under the same circumstances. Such opinions are never admissible unless the persons giving them are shown to be experts, and then by the word of mouth of such experts under oath. Wherefore, the court holds that it was error to permit such an extract from a work on medical jurisprudence to be read in evidence to the jury in this case. It says that it did not appear that the author was an expert on powder marks, nor that the two experimenters referred to were, and, conceding them to have been experts, they were not sworn before the jury. As for the experiments themselves, it is well settled in this court, it says, that, had the two experimenters been sworn on this trial, they would not have been allowed to depose to them.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Philadelphia Medical Journal, September 28.

1 A New Rectal Fistula Knife, Tenaculum and Hemorrhoidal Clamp. Dwight H. Murray.
2 *The Technic of Major and Minor Amputations. Robert H. Cowan.
3 *Laceration of the Cervix Uteri. Henry D. Beyea.
4 A Report of Two Cases of Lymphangioma. Vertner Kenerson.
5 Thrombosis of the Cavernous Sinus—Double Panophthalmitis of Septic Origin. Edward Jackson.
6 One Morning's Work with Stomach Cases, etc. Boardman Reed.

Medical News (N. Y.), September 28.

7 *A Contribution to the Surgical Relief of Cancer of the Rectum: Revision of the Statistics to Date, with Special Reference to Sacral Extirpation. Frank Le Moyne Hupp.
8 The Problems of Physiology and Pathology. Martin H. Fischer.
9 *Intratracheal Injections in Bronchial and Pulmonary Affections. Willis S. Anderson.
10 Presbyopia; Accommodation; Astigmatism. Norburne B. Jenkins.

American Medicine (Philadelphia). September 28.

11 *The Technic of Cesarean Section. Matthew D. Mann.
12 *Pervic Indications for the Performance of Cesarean Section. J. Whitridge Williams.
13 *Place of Symphysiotomy as Contrasted with Cesarean Section. Chas. Jewett.
14 *Circumstances Which Render the Elective Section Justifiable in the Interest of the Child Alone. Edward Reynolds.
15 *The Hygienic and Mechanical Treatment of Heart Disease. Boardman Reed.

New York Medical Journal, September 28.

16 *The Lane Lectures on the Social Aspects of Dermatology. Malcolm Morris.
17 *The Gonococcus and Its Toxin. J. Rilus Eastman.
18 *A Study of the Temperature, Pulse and Respiration in the Diagnosis and Prognosis of Certain Diseases of the Brain. (Concluded.) J. T. Eskridge.
19 Two Cases of Intestinal Obstruction Diagnosticated by the X-rays. J. Rudis-Jicinsky.
20 *The Abstraction of Calcium Salts from the Mother by the Fetus a Cause of Osteomalacia in the Former. Jennie G. Drennan.

Boston Medical and Surgical Journal, September 26.

21 *Problems in Medical Education. Herbert L. Burrell.
22 *Observations on Heart Disease. Robert T. Edes.
23 The Pupil in General Disease. Edwin E. Jack.
24 Report of Cases from the Second Surgical Service of the Children's Hospital, Boston. H. L. Burrell, R. W. Lovett and J. E. Goldthwait.
25 *Spermine Crystals in Pus. Edward T. Williams.

Cincinnati Lancet-Clinic, September 28.

26 Dilatation of the Stomach. William E. Risinger.
27 Types of Successful Physicians I Have Known. George J. Monroe.

Medical Record (N. Y.), September 28.

28 *A Matter of Interest in Blood Structure Study. Woodbridge H. Birchmore.
29 Report of a Case of Intracranial Tumor; Operation; Recovery. William M. Leszynsky and James H. Glass.
30 Operative Procedure for Tumor of the Brain. James H. Glass.
31 *The Prophylaxis of Tuberculosis. Joseph Kucher.
32 *The Home Management of Epilepsy. Robert H. Porter.
33 *On the Origin of Retroversioflexio Uteri and Its Pathologic Dignity. Samuel W. Bandler.
34 Treatment of Typhoid Fever.. Basil M. Taylor.

St. Louis Medical Review, September 28.

35 *The Progress of Gynecology and Obstetrics. Walter B. Dorsett.

American Practitioner and News (Louisville, Ky.), August 1.

36 *Empyema of the Antrum of Highmore. M. F. Coomes.
37 The Longevity of People of Seventy Years and Over Living in the Valley Below the City of Louisville, Called the Ponds Settlement, Within the Last Half Century. T. B. Greenley.
38 *Surgical Treatment of Inguinal Hernia. J. T. Dunn.
39 Address, Kentucky School of Medicine. H. E. Hutson.

August 15.

40 Stab Wound Followed by Pneumonia; Report of a Case. L. L. Cole.
41 The Better Organization of the Medical Profession in the State of Kentucky. J. Smith.
42 Teething in Infants. R. B. Gilbert.
43 The Diagnosis and Treatment of Typhoid Fever. S. L. Reid.
44 Ergot in Obstetrics. Hugh D. Rodman.

Northwestern Lancet (Minneapolis), September 15.

45 Expert Testimony as Seen by a Newspaper Man. C. S. Bartram.
46 Surgical Anatomy of Fascia. C. A. Erdmann.
47 A Cast of Arthritis Purpura, with Nephritis. Geo. Douglas Head.
48 Early Days of the Hennepin County Medical Society. Edwin Phillips.

Medical Mirror (St. Louis), August.

49 *The Woman of the Tenement and Her Three Great Enemies: Ignorance, Alcoholism, and Tuberculosis. S. A. Knopf.
50 *An Intra-uterine Infection Best Treated by Intra-irrigation. O. D. Fitzgerald.
51 Phenalgin in the Treatment of Neuralgias and Other Painful Affections. A. Campbell White.
52 *Cesarean Section as Method of Treatment for Placenta Previa. Wm. J. Gillette.

Albany Medical Annals, September.

53 Address to the Graduating Class of the Albany Hospital Training School for Nurses. Samuel B. Ward.
54 Acute Ulcerative Endocarditis. . Edgar R. Stillman.
55 Notes on Pancreatic Diabetes. Joseph B. Betts.
56 A Case of Diphtheria. Clinical Notes by Charles E. Davis. Bacteriologic Notes by Arthur T. Laird.

Annals of Otology, Rhinology and Laryngology (St. Louis), August.

57 *Chronic Nasopharyngeal Bursitis (Thornwald's Disease). Dunbar Roy.
58 *Traumatic Affections of the Uvula. Seymour Oppenheimer.
59 *A Means of Reducing an Overgrowth of the Intermaxillary Frenum, Permitting the Retention of Two Central Incisors in Close Apposition. Hanau W. Loeb.
60 Inflammation of the Mastoid Process. B. F. Church.
61 Varieties of Cholesteatomata. J. Holinger.
62 *Acute Lacunar Inflammation of the Tonsils. Marshall R. Ward.
63 *Non-Syphilitic Mucous Patches of the Throat. O. Joachim.
64 Diseases of the Upper Air-Passages in Relation to Mental Development. LaFayette Page.
65 Etiology of Nasal Deformities. Wendell C. Phillips.

66 A Case of Angina Epiglottidea Anterior. S. E. Allen.
67 Pharyngomycosis. Arthur G. Root.

Denver Medical Times, September.

68 Medicine in Egypt—Past and Present. R. W. Corwin.
69 *The Physician in Relation to the Dispensing of Medicine. J. Tracy Melvin.
70 Our Duty to Our Obstetric Patients. E. S. Wright.
71 In What Does the Contract Doctor Differ from the Veterinary Surgeon? Will B. Davis.
72 Severe Neurasthenia Dependent upon Anemia. Isaac Mayhugh.
73 An Acute Attack of Tonsillitis Aborted by the Use of a Solution of Adrenalin Chlorid x 1-1500. J. M. Mayhew.

Chicago Medical Recorder, September.

74 The Education of Mutes and Deaf Mutes by Means of Aural Exercises. E. F. Snydacker.
75 *Connell's Operation of End-to-End Anastomosis of Small Intestine. Franklin H. Martin.
76 A Study of Reflex Sensory and Motor Phenomena, with Reference to the Complete Distribution of a Neural Segment. W. T. Eckley.
77 *Myasthenia Gravis, with Clinical Report of Case. Sanger Brown.
78 Ileus Caused by Neoplasms. A. J. Ochsner.
79 Ileus Due to Mechanical Obstruction to the Fecal Current. D. A. K. Steele.
80 Obstetrical Cases; Adherent Placenta, etc. Rachelle S. Yarros.

Medical Times and Register (Philadelphia), September.

81 *The Advantages and Disadvantages of Drainage After Abdominal Operations. Hunter Robb.
82 On the Treatment of Meningitis with Unguentum Crede. F. Dexenberger.
83 The Medical Treatment During the Adolescent Period. Edwin Rosenthal.

The Post-Graduate (N. Y.), September.

84 *Mercury—Its Action upon the System. William Henry Porter.
85 *Our Onomatology in Regard to Greek Terms. Achilles Rose.
86 Tuberculous Lymphomata of the Neck. Franz Torek.
87 Examination of the Blood. Hermann Lenhartz.
88 "Medicine" a Science. Joseph Clements.
89 Report of Clinic. Dr. H. D. Chapin.
90 Report of Clinic. Dr. A. Rose.
91 Notes from the Clinics. Dr. Brodhead.

American Medical Compend (Toledo, Ohio), September.

92 Addison's Disease, with a Report of a Case. Wm. J. Gillette.
93 A Study of Cerebral Function. Hiram A. Wright.
94 Health Resorts of the Southwest. L. B. Lockard.

Interstate Medical Journal (St. Louis), September.

95 *Neurasthenia. Sanger Brown.
96 *The Value of Venesection, Followed by the Saline Injection in Acute Lobar Pneumonia. William Porter.
97 A General Consideration of Pulmonary Tuberculosis, with Plea for Its Treatment at Specially Fitted Institutions. Robert M. Ross.
98 Insulation Complicated by Lobar Pneumonia. Floyd Stewart.
99 Report of a Case of Leprosy. Martin F. Engman and A. Faller.

Pacific Medical Journal (San Francisco), September.

100 The Need of Broader Views Concerning the Study of Inebriety. (To be continued.) P. C. Remondino.
101 Race Progress. H. D'Arcy Power.
102 Necessity of Dietetic Management of the Famous Mineral Springs of California. Frank H. Payne.

Merck's Archives (N. Y.), September.

103 Treatment of Consumption at Home. J. H. Jackson.
104 An Index of Diseases Alphabetically Arranged, with Their Modern Treatment. G. Bjorkman.

Southern California Practitioner (Los Angeles), August.

105 *Mental Therapeutics. Norman Bridge.
106 *Original Investigations of Spider Bites in Southern California. C. C. Browning.

Journal of Medicine and Science (Portland, Me.), September.

107 Heredity and the Transmission of the Insane Diathesis. W. N. Thompson.
108 A Porro-Cesarean Section. D. A. Robinson.
109 Third Report of the Committee of Inspection Appointed by the Executive Committee of the Post-Graduate Medical School to Review the Experiments of Dr. John F. Russell in the Treatment of Pulmonary Tuberculosis, at the Post-Graduate Hospital, New York, February, 1901.

Memphis Medical Monthly, September.

110 Movable Kidney. William D. Haggard.
111 The Routine Clinical Examination of Stomach Contents. Wm. Krauss.
112 *Some General Remarks on Malaria. Wm. Britt Burns.
113 Appendicitis. F. D. Smythe.

Medical Standard (Chicago), September.

114 Marasmus in Children; A Pediatric Clinic. Isaac A. Abt.
115 Appendicitis and Its Treatment. A. J. Ochsner.
116 Thoracentesis; Its Indications, Technique and Accidents. Aime Paul Heineck.
117 The Diagnosis of Typhoid Fever. J. T. Moore.
118 Light as a Therapeutic Agent. H. L. Mason.
119 Eczema Multiforme Involving the Entire Body. N. E. Aronstam.
120 The Circulation in the Nervous System. Herman Gasser.

Texas Medical Journal (Austin), September.

121 Criminal Abortion. J. P. Oliver.
122 *Apomorphia—Its Origin and Therapeutics, as Applied in Asphyxia, Drowning, Lightning Stroke, Emetic in Ejecting Poisons from the Stomach, Labor, Fever, Strangulated Hernia. Thomas J. Pugh.
123 Four Cases of Appendicitis, Illustrating Four Types of the Disease. A. L. Hathcock.
124 *The Age of First Menstruation in the United States. G. J. Engelmann.
125 The Increasing Sterility of American Women. George J. Engelmann.

Oklahoma Medical News (Oklahoma City), September.

126 Differential Diagnosis of Diseases of the Heart. W. T. Salmon.
127 Mosquitoes in Malaria. Ira B. Bartle.
128 Etiology and Treatment of Pelvic Peritonitis. H. C. Fleming.
129 Abortion Resulting in Acute Septicemia. C. Woodward.
130 Jacksonian Epilepsy, with Reports of a Case. E. G. Wood.
131 Uterine Hemorrhage Following Abortion. W. H. Van Doren.
132 Specific Treatment of Typhoid Fever. John Inglis.

Atlanta Journal-Record of Medicine, September.

133 The Advantages of the X-ray in the Treatment as Well as the Diagnosis of Certain Surgical Cases. M. F. Carson.
134 The Antiseptic and Eliminative Treatment of Typhoid Fever. T. Virgil Hubbard.
135 Typhoid Fever in Country Practice. J. A. Knight.
136 Report of a Case of Anthrax. Amand Ravold.
137 A Few Points in the Diagnosis of Ulcers—Running Sores. Thomas H. Manley.
138 A Case of Lupus Treated with Oils. N. F. Howard.

Southern Practitioner (Nashville, Tenn.), September.

139 Sprains. Van H. Coles.
140 Opium, and Some of Its Adjuvants and Corrigents. Q. C. Smith.

American Journal of Surgery and Gynecology (St. Louis), September.

141 Cystitis. J. F. Binnie.
142 Woman's Hospital Reports. Emory Lanphear.
143 Ovarian Tumor; Tube and Ovary Removed for Inflammation, Anterior Fixation of the Uterus; Miscarriage; Vaginal Fixation for Pelvic Suppuration; Ovarian Tumor. E. E. Montgomery.
144 Diagnosis of Renal Calculus. F. D. Carpenter.
145 Cyst of Spleen; Splenectomy; Recovery. Lewis S. McMurtry.
146 The Diagnosis of Gallstones. Neil MacPhatter.
147 The Prevention of Complications After Peritoneal Section. Henry T. Byford.
148 Notes on Vaginal Celiotomy, with Report of Cases. Thomas J. Watkins.

AMERICAN.

2. **Amputations.**—The special conditions under which amputations are justifiable are noticed by Cowan, who says that in every case of severe injury there are three questions usually confronting the surgeon: 1. The treatment of shock. 2. When to amputate. 3. Where to amputate. First he would consider the condition of shock as one of anemia and nervous exhaustion and treat it accordingly with nitrate of strychnia hypodermically, or nitrite of amyl and hot saline solution, which is one of the most valuable means we possess for combating shock, possibly the most valuable. In deciding when to amputate, the surgeon must largely be governed by the degree of shock, systemic and local, meaning by the latter the devitalizing or lowering of resistance of tissue in the vicinity of the injury. In profound systemic shock, operation almost invariably results fatally. He is opposed to immediate amputation in the large proportion of cases, always in profound shock, and not infrequently in the absence of systemic shock, and in certain cases where we are in doubt as to the extent of the injury to contiguous tissue. The question where to amputate is a very grave one to the patient and the rule that every inch of tissue should be saved that is possible, is not without its exceptions. The great desideratum, na-

turally, is to produce the most useful possible stump and in injury about the knee it may be better surgery to go just above the point, enabling the patient to wear an artificial limb with more comfort than in case of disarticulation. In dealing with injuries to the hand or fingers, the utmost conservatism should be employed, every finger or part of a finger that can be should be saved. In operations undertaken on account of pathologic conditions, among which he includes infections, gangrene, osteomyelitis, osteosarcoma, etc., amputation may be necessary. He has used local analgesia with cocain in a number of amputations, and recommends it especially where shock is grave and immediate amputation is deemed advisable. The technique of the operation is described at length and in too much detail to be reproduced. He thinks the circular method for amputation superior, as having advantages over the older transfixation operation. A large muscle flap is in no way desirable.

3. **Laceration of the Cervix.**—The special points made by Beyea are the factors of selection in operation, including the proper selection of cases, preparation for operation, attention to certain essential operative details and the selection of the proper operation for the individual cases. The selection of the cases is the most important. The chief contraindication to operation is the presence of pelvic inflammatory trouble outside the uterus, such as tubal and ovarian disease. There are also other lesions that must be recognized and repaired before perfect health can be restored. Treatment should be employed to prepare the parts for the operation. In regard to the details of the technique of trachelorrhaphy he only alludes to a few points. All cicatricial tissue should be thoroughly removed, no portion or part of a Nabothian cyst should be left in the line of denudation. Sutures should be accurately and evenly placed. If good asepsis is practiced union will never fail. The sutures should not be too tight nor too loose, but just enough to secure accurate and firm apposition. If there is the least suspicion of malignant disease the surgeon should not await developments, but the suspected tissue should be thoroughly excised.

7. **Cancer of the Rectum.**—Hupp's article is largely a review of the literature, though he reports several cases of his own. The latter part of the paper is taken up with the revision of the statistics.

9. **Intracranial Injections.**—This method is advocated by Anderson in a number of conditions and he summarizes his personal experience in the following: 1. It is of no advantage in acute bronchitis, at least during the congestive stage. 2. It is of distinct advantage in subacute and chronic bronchitis. 3. It is of positive benefit in bronchiectasis. 4. It is valuable in pulmonary tuberculosis, relieving many of the symptoms, especially those due to secondary infection. 5. It quickly relieves the distressing symptoms of asthma. The amount of relief and the permanency depend largely upon the predisposing and exciting causes. 6. It in no way interferes with other lines of treatment. 7. The writer has never seen harm follow its use, although in a very few instances it excited severe coughing for a short time.

11.—See abstract in THE JOURNAL, xxxvi, p. 1652.

12.—Ibid.

13. **Symphysiotomy.**—Jewett concludes as follows: Symphysiotomy is still a useful operation within a limited range of pelvic contraction. It is suited to conditions in which only very little additional space is required for delivery. It is a valuable resource, therefore, in cases in which forceps unexpectedly proves inadequate. Axis traction forceps with the aid of posture should always be tried before resorting to symphysiotomy. Its results would be much improved by restricting it to pelves with a conjugate of not less than 7.5 cm.—3 inches—in simple flattening or 9 cm. in general contraction. Under equally favorable conditions its total mortality should be no greater than that of Cesarean section. When the pelvic space permits it should replace the Cesarean operation in the presence of exhaustion. It may be elected primarily as an alternative of Cesarean section when the operator can be assured that the degree of obstruction is well within its safe limit. Here the choice of operation is a matter of individual preference. Within its proper field symphysiotomy is better than Cesarean section for an operator of little experience in abdominal surgery.

14. **Cesarean Section.**—The conclusions to which Reynolds has been led by experience are: 1. That Cesarean section performed late in labor or in the presence of infection of the uterus or other complicating constitutional conditions, has been shown by the experience of almost every one who has tried it to have so high a mortality as to be totally unjustifiable when performed in the interests of the child alone. 2. When Cesarean section is performed on a healthy woman under otherwise favorable circumstances for merely mechanical indications in skilled hands, there is no mortality other than the fractional percentage incident to all considerable operations per se. 3. The inconveniences and high morbidity rate of symphysiotomy make it distinctly inferior to section as the operation of choice, but it is the operation which, as compared with craniotomy or prolonged and forcible high forceps work without it, involves almost no increased risk to life. He therefore believes it to be an operation of choice in a somewhat limited number of neglected cases (those where Cesarean section is ruled out) in which the pelvic contraction is within the range and where the extraction of a living child without symphysiotomy is difficult or impossible, but after symphysiotomy, is safe or easy. 4. The induction of premature labor for contracted pelvis causes so high a fetal mortality as to be unwarranted, as compared with the performance of Cesarean section at the beginning of labor and in favorable cases. His belief in the safety of early section is based on a personal experience in 19 cases and observation of the literature for nearly ten years. His belief as regards symphysiotomy is largely from the experience of others and a study of the literature. Pelvimetry is our only means of diagnosing the existence of deformity and contraction, and he thinks it will come to the point where it will give us an accurate knowledge of the pelvis. He recommends careful pelvimetry during pregnancy in those multiparas whose previous history is that of difficult labor and in all primiparas, and, in conclusion, urges his personal belief that no man is justified in permitting Cesarean section as a last resort or upon infected or otherwise constitutionally ill women for the sake of the child alone, but that it can be done in the beginning of labor with a healthy woman with even less risk to either mother or child than is involved by unusually high forceps work.

15. **Heart Disease.**—The summary of Reed's paper is given as follows: 1. Cardiac disease is often due to autointoxication, especially to poisoning by the alloxuric bases; 2, cure or amelioration in such cases requires at first, in addition to an appropriate diet, not too nitrogenous, the utmost practicable rest of the crippled organ. This cardiac rest may be further promoted by very gentle exercises which dilate the capillaries without taxing the heart; 3, the Nauheim method of treatment spares the heart by dilating the too contracted arterioles in two ways—(*a*) by stimulating the peripheral circulation through carbonated saline baths; and (*b*) by massage and forms of exercise (*Widerstandgymnastik*) so mild as not to quicken the pulse.

16. **Social Aspects of Dermatology.**—In this third lecture Morris describes certain conditions such as ringworm, which he thinks was possibly imported from India. He goes over the history, pointing out that Gruby had, in 1844, published an article on the organism which was overlooked until it was rediscovered by Sabouraud about fifty years later. The number of organisms producing this is noticed and the author's own results given. His investigations have led him to the conclusion that there are at least two distinct fungi which may cause ringworm, one with small spores and the other with large ones. The large spored fungi attack the root of the hairs and go downward, and also attack the body in the region of the beard and elsewhere. The small spored variety attacks the scalp

chiefly, is in children almost exclusively and produces a very refractory condition indefinite in duration. The prognosis of scalp ringworm is not altogether a satisfactory one, though, as a rule, it comes to a spontaneous end after puberty. He believes that children affected this way should be treated in special schools apart from others, to avoid spreading the disease. Favus is also a disease which has undergone some changes as regards our views of it. It is much more serious than ringworm and exceedingly unpleasant. He thinks it should be restricted by legislation. The immigration of persons bringing it should be checked. Like ringworm it can only be stamped out by properly organized methods of medical and sanitary repression. He concludes by mentioning some unimportant forms of disease caused by vegetable fungi, like tinea versicolor and erythrasma, both of which are trivial.

17. **The Gonococcus.**—Eastman's article is a lengthy and elaborate description of the gonococcus and its toxins and seems to be quite thorough. It is too full to be abstracted. He believes that gonorrheal urethritis, once cured, affords some degree of immunity against subsequent attacks.

18. **Brain Disease.**—Eskridge sums up this series of articles which has been running through several preceding numbers in substance as follows: A careful study of temperature, pulse and respiration will give much valuable information, aiding in the diagnosis and prognosis of certain diseases of the brain. Careful and reliable records are required, needing much time and patience. Nurses are totally incompetent for such detailed work, unless specially trained to it. The change in the character of respiration rather than in its frequency is one of the first positive symptoms of intracranial organic disease, especially of tuberculous meningitis. A respiration that is more frequent while the patient is asleep or unconscious than during the waking or conscious moments, is very strong evidence of organic brain disease interfering with respiratory centers. Apoplexy due to hemorrhage is attended with greater disturbance of the body temperature soon after the stroke than is the case when the apoplexy is due to thrombus or embolus. The temperature disturbances in apoplexy due to hemorrhage, especially if attended with hemiplegia, are a slight fall of the axillary heat within an hour or less after the occurrence of the hemorrhage, the fall being a little greater on the paralyzed side. If reaction has occurred (eight to twelve hours on the average) we see a slight rise of temperature a little greater on the paralyzed than the opposite side, elevation from one-half to 2 or 3 degrees above normal for the next few days, the temperature remaining a little higher on the paralyzed side than the opposite side for a week or more in cases of complete hemiplegia; later, the temperature is slightly lower on the paralyzed side if trophic disturbances occur. In apoplexy from thrombus or embolism there is scarcely any appreciable temperature disturbance before the end of the second day, except in the severer cases, and then slight. In the majority of these cases there is no marked variation of temperature from the normal at any time, so that temperature disturbance the first day points very strongly to hemorrhage. Considerable disturbance of temperature, beginning from the second or fourth day, is significant of thrombus or embolus, and indicates extensive softening and an unfavorable prognosis. If the temperature of the paralyzed side remains higher than on the opposite side for several weeks after the occurrence of apoplexy from any cause, it indicates that softening or inflammation of the brain is progressing and the prognosis is very grave. It is premature to attempt to arrive at any definite conclusions from the study of the temperature, pulse and respiration in brain traumatism. This class of cases deserves a more detailed study of all their symptoms and it is probable that if they were classified and grouped according to the severity of the injury and the character of the symptoms, a careful comparison of the temperature, pulse and respiration would lead to important conclusions. In regard to the traumatic class of cases it seems we are justified in making the following tentative statements: 1. All cases of injury to the head in which the temperature does not reach normal or slightly above a few hours after the receipt of injury will probably prove rapidly fatal. The higher the temperature the greater the probability is that contusion or laceration of the brain and membranes is the more important factor in the case than intracranial hemorrhage. The greater the variation of the temperature from normal, either above or below, the worse the prognosis. 2. A rapid, weak, intermittent and irregular pulse indicates danger. A pulse that is first slow, but soon after becomes quite rapid indicates that the brain power is being overwhelmed by the intracranial lesion, and justifies a bad prognosis. 3. The exceedingly slow and intermittent respiration (8 to 10 to the minute) indicates a lesion at the base in the posterior fossa. The slower and the more pronounced the intermission of respiration the greater the danger of sudden death. A respiration at first nearly normal in frequency but soon after becoming quite rapid, indicates a rapidly fatal case.

20. **Osteomalacia.**—Brennan suggests that osteomalacia of the mother is due to the absorption of calcium salts by the fetus indirectly by taking from her blood the pabulum which she requires to build her own tissue. In the case of a poorly-fed woman, she holds, this would easily occur. We may say then, according to this theory, that osteomalacia is a condition the result of the poverty of calcium salts in the blood of the mother by which the osseous tissues are starved by the fetus assimilating all the valuable salts. If the diet were rich in salts there would be sufficient for both.

21. **Medical Education.**—Burrell calls attention to the value of experience, which, nevertheless, is not the only method of obtaining knowledge and can be supplanted in some measure by the student having a foundation firmly laid by scientific methods in laboratories for research work, hence the value of laboratories. The special practitioner will have his foundation laid in these, and carry the training he has there received to individual patients. The uses of the clinical laboratory are stated by Burrell as follows: 1. The habit which the student will form of examining clinical products in each individual patient as he presents himself. 2. The training of students to apply their abstract scientific knowledge to the concrete example of a patient. 3. The stimulus to acquire knowledge at first hand, which will not alone be felt in his laboratory work. 4. The impetus it will give to research. The writer also says that the compensation and the position of the teacher of medicine at present are not what they ought to be. He is obliged to give his time and attention 1, to his living, 2, to his hospital work, and 3, to his teaching. The matter will not be improved until the medical schools make a teaching position the principal object of a man's life. Burrell considers that the value of lectures, recitation, demonstration, etc., is still undetermined. There are certain subjects that are always best presented by lectures, and clinics will always be of great advantage. Extramural teaching should be carefully tried in all large centers of population. Graduate instruction at the present is not sufficiently scientific. The doctor goes to get therapeutic tips, the latest dodges in operative technique and the reputation of having the latest scientific facts. The graduate instruction should be planned so that real knowledge can be obtained in the shortest possible time. The function of the modern medical school is that of a university of medicine, and should fit the students for the practice of specialties and biologic work as well as for general practice. What the curriculum should be is yet a question. He gives a diagrammatic showing and criticism of the curriculums in four leading schools, not, however, designating the institutions. He summarizes that every school of medicine should establish its curriculum not depending on the wishes of the head of each department, but planned for the good of the student, and should establish in each of its departments the minimum required course for the average student. During the fourth year of instruction the work should be essentially elective and optional in order that students can prepare themselves for the special lines they are to engage in. Improvement in the method of instruction can best be secured by active competition. This can be obtained by the medical schools of the country adopting a standard of minimum required work.

At what period this minimum required work should cease is open to argument.

22. **Heart Disease.**—Edes commences by remarking that the time is not long past when the prognosis was based upon the observation of cardiac murmurs almost exclusively, and the average practitioner is supposed still to be in bondage to the old ideas. He describes the physiologic action of the heart and shows that the line between the healthy acting and inefficiently active heart can not be sharply drawn, but has a varying margin which can only be told with precision by experiment, which may be dangerous. It is only in the increase of muscle power and in regulating it so that it can be economically used that the best results are to be obtained. He dwells on the importance of the trained touch to diagnose the pulse, and, while it is not possible to diagnosticate actual degeneration of the cardiac muscle, it can be done with sufficient probability for practical purposes. He considers the term "heart failure" a proper phrase for the state of things when the margin has been passed in the wrong direction. It is objectionable only because it is so easy to misapply. In conclusion he describes the innervation of the heart and remarks how many points are yet undecided in the physiology, and pathology is still further behind.

25. **Spermine Crystals in Pus.**—Williams reports the results of examination of pus from a case of long continued cervical abscess in which he has found spermine crystals in almost every slide. He also found great numbers of needle-shaped crystals, which, he concludes, must be adenine, guanine or sarcine, with others which he took for xanthine. If his observation is not at fault this finding of spermine in the pus makes the fourth or fifth of the nuclein bases thus far observed and xanthine may also be added as a possible discovery by himself.

28. **Blood Structure Study.**—Birchmore reports observations on the blood of a turkey which had been killed by cutting the carotid artery by way of the mouth. The knife thrust had opened the way into the lymph space and the blood had filled it, and, coagulating superficially, had half-sealed the wound of entry. The head and neck were dissected not less than 120 hours after killing and the findings strongly suggested embryologic conditions of the blood; he thinks that certain developmental changes take place in the body after death. The animal was over-stuffed with food. The blood was peculiarly in a condition to feed the corpuscles, which might be regarded as the only living cells left in the body. The absence of air reproduced to a certain extent embryologic condition, though the absence of heat was different. He asks does this combination of ample food with deficient respiration and heat explain the pertinacious following in the steps of development impressed upon the substance of the cells, the exceeding slowness of metabolic change, the persistence of these shadows, the simulacra of embryonic conditions. If so, he says, one is tempted to ask what would have happened between the condition reached and the moment when the pseudo-embryonic tissue, its growth-impulse exhausted, or no longer protected by environment, was assailed by the agents of decomposition. The question he leaves unanswered.

31. **The Prophylaxis of Tuberculosis.**—Before advising prophylactic measures the question of their practicability is raised by Kueber. He remarks that the laws proposed by certain boards of health are of doubtful utility. The danger of infection is not founded upon indisputable facts. Since 1854 there have been in Gerbersdorf, according to Brehmer, more than 10,000 consumptives and he asks, what quantities of sputum have not been ejected on public highways and streets and what quantities of infected matter have not been breathed by the inhabitants of Gerbersdorf, among whom the percentage of consumptives has decreased during the last twenty years from 0.41 to 0.18 per annum. Pollock says as regards infection that he has investigated the Brompton Hospital from the beginning until now and there has been among the nurses, house physicians, dispensers, floor scrubbers, etc., no more than four cases in fifty years. Out of 4000 cases which he has attended in hospital practice, at least 30 per cent. had the hereditary element. Other facts mentioned are the decrease in consumption in the British barracks since the ventilation has been improved and among the monkeys in the zoologic gardens in Paris. If there were one-half as much danger from infection as some would have us believe, it would be very unwise to send patients suspected of consumption to places full of consumptives. More than one hundred years ago the most stringent measures against the spreading of consumption by infection were enforced in Naples for several years. The result was a great hardship on the population without the least decrease of the mortality from consumption. Anyone who gives attention to the cause must conclude that the danger of infection is of subordinate importance, and, if the boards of health instead of wasting their efforts in impracticable measures would concentrate their efforts on regulations of indisputable merit, a great deal of good could be accomplished. A change for the better may be looked for when the boards of health and public have become convinced of the following: 1. That the tubercle bacillus is ubiquitous and that we can not escape it anywhere. 2. That the bacillus is harmless until it finds a congenial soil. The same is true also of some other bacteria. It was shown at von Leider's clinic in Berlin, some time ago, that ordinary bacteria in the blood circulation of animals affect the heart valves only when these are already injured. 3. That the human body offers a congenial soil when its vitality is undermined by one or the other of the many causes that are deleterious to health. 4. That there is no better and surer and easier preventive against consumption than to keep the body proof against tubercle bacillus. This can be done by avoiding the causes that make the human body susceptible to it. Foremost of these and the one most disregarded is working, living and sleeping in a confined and contaminated air. Few people give attention to the ventilation of their sleeping rooms. Sunshine and air are the last things thought of. The next noteworthy causes that undermine the vitality are certain occupations, such as stone cutting, needle grinding and workers in dust, and instances of prolonged worry, dissipation and irrational feeding.

32. **The Home Management of Epilepsy.**—The treatment of epilepsy is discussed by Porter, who shows the bad effects of even careless words, harsh fault-finding and especially of unfavorable environments. No fixed rules or regulations, however, can be laid down. Each individual must have his own treatment. A few of the patients, especially among children, may show some minor defects in manners; it is best as far as possible to ignore many of their shortcomings. The proper training of the mind, abstinence from stimulants, prudence and temperance in diet and mental diversion are especially advisable. Fear, anxiety and worry are dangerous conditions of the mind, and discussion of the condition or any remarks in regard to the probabilities of the case in presence of the patient are to be condemned.

33. **Retroversioflexio-Uteri.**—In this article Bandler describes the anatomy and physiology of the condition, and the following is a summary of his views, leaving out the question of retroflexio-fixata, and the peritoneal complications of retrodeviations: 1. Retroversioflexio per se is not a pathologic condition. 2. The majority of retrodeviations are of congenital origin. Retroflexioversio is not an obstacle to the cure of pelvic affections. 3. Where retroversioflexio without peritoneal, tubal, or ovarian complications causes symptoms, an hysteroptosis must be taken into consideration, always bearing in mind the possibility of other physical states, especially gastroptosis, enteroptosis, ren mobilis. 4. Prolapsus vaginæ and cystocele, while often associated with retrodeviations, are independent affections. 5. Where retroversioflexio is accompanied by severe local symptoms, these, if not due to peritoneal, tubal, or ovarian complications, may be corrected in the vast majority of cases without surgical treatment.

35. **Progress of Gynecology.**—Dorsett reviews the progress of gynecology and obstetrics, calling attention principally to the surgery and the advance in the matter of perineal operations and in the surgical treatment of fibroids. Since he has

used the angiotribe in the latter, he considers the operation less dangerous than before, as ligatures are dispensed with, the vessel is just as safely disposed of and the time shortened. He says the more one studies the question of the management of fibroids the more convinced he becomes that in the great majority of cases myomectomy should only be performed in cases where the tumor has a pedicle. The ragged bed left after the enucleation, composed as it is of bruised and devitalized tissue, is too fertile a soil for the propagation of pathogenic organisms. He also mentions the importance of early diagnosis of a malignant disease and the abuse of the curette. As regards the advisability of Cesarean section in placenta previa, he says it is difficult to approve of this method, though one feels that it may be possibly justifiable in this most dangerous condition, if in any.

36.—See abstract in THE JOURNAL, xxxvi, p. 1726.

38.—Ibid., p. 1727.

49.—This article has appeared elsewhere. See THE JOURNAL of September 28, title 155, p. 863.

50. **Uterine Irrigation.**—Fitzgerald advises the use of free intra-uterine irrigations in cases of infection in preference to the curette. He has been making use of the irrigation in all septic and toxic-genetic troubles, but especially in puerperal conditions where he thinks its benefit has been most apparent. He advises irrigation well up to the fundus, flushing of the uterine cavity with carbolized water by reflux irrigator with a fall of two feet, and, while it is still in the uterus, the douche is detached and, by means of a short tube, a small glass funnel is attached which should be held about fourteen inches above the end of the irrigator and a little peroxid of hydrogen introduced at a time, giving time for action of each addition. He would repeat this operation after several hours and has found this method very satisfactory in cases of uterine infection. The curette should be used less frequently and more reliance placed upon the stimulating, unirritating, intra-uterine douche and free drainage, preceded always by thorough removal of all infected matter that can be taken away without injury to the normal structure, with subsequent irrigation, repeated as indicated.

52.—This article has appeared elsewhere. See THE JOURNAL of August 24, p. 495.

57. **Chronic Nasopharyngeal Bursitis.**—The bursa pharyngea which occurs in the vault of the pharynx exactly in the median line is not a congenital one, but may occasionally be traced to arrested development. Its existence is doubted by some writers, but Roy has been able to find it almost universally present in this opening in the vault in cases where there are decided objective symptoms of nasopharyngeal catarrh. He reports cases and thinks there must be something more present besides adenoid hypertrophy to account for the condition. The reason why it is not more often recognized is largely due to the fact that it is not frequent and probably not recognized as a distinct condition by many observers. While he believes in it himself he can not agree with Thornwaldt in attributing every case of postnasal catarrh to this condition. The best treatment he has found, in addition to thorough cleansing which the patient can do at home, is the application of a solution of silver nitrate, 60 gr. to the ounce, directly to the sulcus, followed by thorough spraying of the nasopharynx with hot melted vaselin and orthoform. His success with the curette and electro-cautery was not encouraging.

58. **Injuries to the Uvula.**—Oppenheimer reviews the various traumatic injuries to which the uvula is subject, all results of direct violence, excepting those due to extensive strain of the parts sometimes observed in singers, or from violent force to clear the throat as is hawking. In these cases the symptoms are altogether out of proportion to the apparent amount of injury. No special form of treatment is indicated, excepting when the tissues have been lacerated, then the local application of ice is very useful. In extensive edema, multiple incision is indicated, and in any inflammatory condition mild soothing applications are valuable.

59. **Apposition of Simple Incisors.**—The condition when the two middle front teeth are separated by a space is due, according to Loeb, to a small ridge of tissue which passes from the labial frenum downward between the teeth and depends upon the implantation of the frenum upon the gingival surface. When the attachment is high up the fibers are lost before they reach the inner surface of the alveolus, while, when it is low down, the fibers in the vast majority of cases continue between the two central incisors and are spread out in a fan-shaped manner between the palate. These observations were made on the living subject and while the condition has no bad effects, from the cosmetic standpoint it is undesirable. The operation which he advises consists in plunging the galvanic knife in the median line, beginning at the upper and anterior margin or mass of tissue just described and carrying it well into and behind the alveolus even to the fan-shaped prolongation on the palate. One application will sometimes be sufficient, though three or four may often be necessary. The operation may be performed before the retention bands have been applied or during their application and use. Care should be taken not to insert the cautery point too close to the teeth; the reaction from the operation is very slight, not more than from cauterization of the nose.

62. **Acute Lacunar Tonsillitis.**—This condition occurs most frequently between early life and adolescence. It is undoubtedly infectious and to a moderate degree contagious. The cervical lymph and ear complications need only to be mentioned. The treatment is local and constitutional. Ward does not claim to be able to abort the condition. All we can hope to do by local treatment is to modify the severity, as it is self-limited. However, indiscriminate local treatment, digging and probing is productive of more harm than good. He has been in the habit of giving the following as a routine treatment:

℞. Acid. carbolic ..... gtt. x
Acid. boracic
Sod. biborate āā ..... ℥iss
Hydrogen dioxid
Borolyptol, āā ..... ℥i
Aquæ dest. ..... q. s. ad f. ℥viii

He advises also small particles of cracked ice or water and spray in the early stages of the disease. If there is any indication of extensive lymphatic involvement, the ice-coil may be used. The constitutional treatment consists in free purgation with calomel and effervescent sodium phosphate. For fever, headache, and muscular pain he usually combines codein sulphate, salol and phenacetin, in proportion to suit the age and requirements. With a previous history of rheumatism he relies on salicylate of strontium or soda, and tincture of chlorid of iron is a remedy, the value of which can not be overestimated. It has a decidedly beneficial local effect and a selective action on the blood and kidneys, and should be given during the acute stage and continued into convalescence. One attack predisposes to another and the removal of the troublesome organs should be practiced during the quiescent periods, but never in the active stage of the disease.

63. **Non-Syphilitic Mucous Patches.**—The conditions which simulate syphilitic mucous patches are as follows: Aphthous stomatitis, which is usual in children, is inflammatory and has a thick yellowish exudate; herpes buccalis, also painful and otherwise different, and pemphigus, which is more serious and in which anti-syphilitic treatment would be decidedly harmful. Close observation will reveal the remains of an elevated cuticle and in some the lesions are apparently preserved. Leucoplakia, however, is the most frequent cause of error. It is more permanent in its character, the surface is smooth, tough and warty. It is aggravated rather than benefited by anti-syphilitic treatment. The use of nitrate of silver or chlorate of potash may also give trouble, which may cause confusion. Joachim believes what are apparently very much like syphilitic lesions do sometimes appear on non-syphilitic subjects and that the evidence is not always safe for diagnosis and treatment of syphilis.

69.—See abstract in THE JOURNAL of July 13, p. 138.

75.—This article appeared in THE JOURNAL, xxxv, p. 1151.

77.—See abstract in THE JOURNAL, xxxv, p. 1107.

81.—This article appeared in THE JOURNAL of July 6, p. 20.

84. **Mercury.**—The much discussed physiologic action of mercury in the system is again reviewed by Porter, who sums up the principal action of the mercurials as follows: "1. Stimulant to the hepatic cells. 2. Cholagogue in action by virtue of exciting hyper-secretions of the bile acids. 3. Sedative due to the two previous actions. 4. That its alterative, antiphlogistic, anti-syphi..tic, diuretic actions, etc., are secondary to the above actions. 5. That ptyalism from mercury is due to the inactivity of the hepatic cells, and to the salivary glands attempting to do what should have been done by the hepatic cells."

85. **Onomatology.**—Rose criticises the incorrect Greek of medical nomenclature, calling attention to such words as appendicitis, conjunctivitis, albuminometer, etc., and such incorrect ones as chlorosis, polyclinic, glycosuria, hemophilia, etc. He admits that the question of introducing correct Greek terms in place of the incorrect ones is a rather serious one, but suggests a committee of competent physicians and philologists combined be appointed by some representative medical society.

95. **Neurasthenia.**—Brown coins a word "neurenergen" which he defines as a supposed ultimate form of organic matter contained in the neurons, through which agency it is convertible into waste products and various manifestations of nervous energy. According to this conception, there is in health a current of neurenergen constantly flowing into the neurons, which is no less constantly transformed by them into energy and waste products. This notion is specially applied to neurasthenia in which condition there is a standing deficiency in neurenergen. The causes of neurasthenia are noticed, including age, shock, worry, etc. He recognizes a class of people who are in a state of congenital chronic lack of stamina which he would not include under this head. Motor neurasthenia is best illustrated by the stale athlete; the sensory form has no special diagnostic symptoms. The mental form is characterized by lack of capacity of attention and mental confusion. Involvement of the special senses and the vegetative organs are also mentioned. The rest cure he thinks is somewhat overdone, too many promoters are taking hold of it and administer it without regard to medical advice. Still it is an excellent method under proper supervision, though men will seldom submit to it. Much outdoor life should be required in most cases, regulated exercises, a generous diet, and regular and frequent periods of rest. The neurasthenic business man should shorten his hours, a proper sort of vacation occasionally affords relief. The tact and skill of the physician are particularly taxed in these cases. He never receives compensation at all commensurate with the value of his services.

96. **Pneumonia.**—The utility of venesection followed by saline infusion is argued by Porter, who does not, however, advocate the method to the exclusion of others. The rationale of the treatment is discussed by him and he says he believes the whole treatment of lobar pneumonia may be summed up in a brief formula: conserve the strength, guard the heart and diminish the toxins. It is a self-limiting disease, but should be helped over the severer places. The mortality is at present greater than it should be, and the early routine and reckless use of heart depressants are responsible for disasters at later stages. He reports a case in which he considers venesection and saline solutions saved the patient, where ordinary remedies would have failed.

105. **Mental Therapeutics.**—Bridge believes that we should lessen the emotional attention to infants, which may produce even true neurasthenia in the first year, and not try to be constantly entertaining children or encouraging emotions that may be vicious ones; later in life we should stop trying to make them young ladies and gentlemen. We should lessen, as far as possible, the emotional strain at school, the fear of failure, etc. Some children suffer this way; increase of outdoor life would be better for people in general. Too much indoor life keeps us below par. The desire to shine in society and business is more often the cause of neurasthenia than nervous overwork. We must have less dress parade in our lives. People who are carrying mind and body loads which are too heavy should have them lessened.

106. **Spider Bites.**—The danger from poisonous spider bites is a popular belief. According to Browning there are but two species of spiders in Southern California reputed to be poisonous; one, of the genus "Phidippus," which is hairy, with red spots on the upper surface of the abdomen, belonging to the family of wandering spiders, seeking its prey after the manner of the feline race; the other, of the genus "Lactrodectus," glossy black, with red spots on the under surface of the abdomen and belonging to the family of line-weavers. He does not know of any case where the bite was specifically stated to be due to the former species, though the conditions of the accident and the lack of characteristic symptoms of the other type lead to suspicion in some cases; a number of cases have been reported of the lactrodectus bite, the results of which may be very severe and even fatal in some cases. The animals seem to prefer outhouses and most bites have been received in them. It is not specially aggressive, but probably is dangerous because of its locality, in the seats of outdoor closets, etc. These seats, he thinks, should always be made to swing on hinges to protect against this. The general symptoms are more often severe than the local ones and may take periodical form, occurring at regularly certain periods of the day. General prostration and weakness is occasionally observed, the first symptoms occurring a few minutes after the bite, with severe rigor, nausea, depression of heart action, lowered temperature, cold perspiration, severe pain in the lumbar region, gradually extending towards both the extremities and the precordia and followed sometimes by convulsions and death. Generally, however, the circulatory and respiratory symptoms begin to ameliorate, temperature and pulse becomes normal, but the pain continues however, and also a slight general edema. He reports a fatal case.

112. **Malaria.**—Burns suggests an antagonism between malaria and typhoid infection, giving his experience as proof of this view. In the region from which he writes the conditions of soil, sewage and water supply are just such as would appear conducive to the propagation of the typhoid germ. This, with the advantage of an insalubrious climate, with people generally below par, yet does not produce many cases of typhoid. He does not believe in any form of malaria that is not amenable to quinin. Hemorrhagic malaria is mentioned. He has had a number of cases where there was spitting of blood and other signs of pneumonia without pneumococcic infection, while blood smears have shown the plasmodia. All cases responded in three or four days to a good gland arousement and quinin. Some of these cases he has regarded as prebacillary tuberculosis. Blackwater fever occurs in his region, and, contrary to what Dock says, the condition is not hematuric. It is in all essential particulars the same as, and in fact is, a malignant malaria with a condition of hemoglobinuria and rapidly increasing jaundice. It usually occurs in old residents, rarely in newcomers and more often in males than females. He does not believe in toxic hemoglobinuria other than from quinin, and he does not hesitate to use quinin in this condition.

122. **Apomorphia.**—Pugh recommends the use of apomorphia in cases of asphyxia to stir up respiration, and would give it hypodermically in the arm or over the stomach in .10 gr. doses every ten minutes. He reports a case where he aroused a man in this way who had been reported dead by two physicians after suffocation from coal gas. He would also use it in drowning and lightning stroke and opium poisoning, though its effect as an emetic if given early would be self-evident in this last case. We have in it also one of the valuable remedies in retarded labor, due to rigid os, and in cases of strangulated hernia, where it produces relaxation; this alone with gravitation often relieves the condition. He says he has treated a number of strangulated cases in this way and always with success.

124.—See abstract in THE JOURNAL, xxxvi, p. 1650.

FOREIGN.

British Medical Journal, September 21.

A Simple and Rapid Method of Producing Romanowsky Staining in Malarial and Other Blood Films. W. B. Leishman.—The author describes a simplified method of producing the Romanowsky staining of blood films with a solution prepared as formerly described by him in a previous note. Solution A: Medicinal methylene blue (Grübler). A 1 per cent. solution of this was made in distilled water, and then rendered alkaline by the addition of .5 per cent. of sodium carbonate, then heated to 65 C. in a paraffin oven for twelve hours, and afterwards allowed to stand at room temperature for ten days before using. Solution B: Eosin, extra B. A. (Grübler), 1 to 1000 solution in distilled water. Equal volumes of these two solutions, A. and B., were then mixed in a large open vessel and allowed to stand for from six to twelve hours, stirring from time to time with a glass rod. The abundant flocculent precipitate resulting is then collected in a filter, thoroughly washed with distilled water until the washings are colorless or have only a pale blue tinge, and the insoluble residue carefully collected, dried and powdered. The resulting powder, which has a greenish, metallic luster, constitutes, or at least contains the active staining ingredient in Romanowsky's method. Full directions for the manufacture of this dye has been furnished to the firm of G. Grübler & Co., Leipsig. The best solvent for this dye which he has found is pure methyl alcohol, and, by taking advantage of the powerful fixative properties of this alcohol, Leishman is able to dispense with any separate process of film fixation. The dye prepared as the above should be dissolved in methyl alcohol in the proportion of 0.15 per cent., and the resulting solution kept in stoppered glass bottles until required for use; it does not deteriorate by keeping. It is of a clear dark-blue color, and shows a greenish iridescence when illuminated by reflected light. It is applied directly to a film on a cover glass and no attempt made to check the evaporation. After about half a minute, double the quantity of distilled water, that is 6 or 8 drops, are added and allowed to mix with the alcohol solution of the dye. Intimate mixture is hastened by rotating the forceps, and the films are allowed to stand for five minutes, though ten minutes may be necessary with thick blood films or smears from cellular structures. The stain is gently washed off with distilled water and a few drops of water allowed to rest on the film for a minute. At the end of this time the specimen is ready for examination, either directly in water under a one-sixth or one-eighth inch objective, or, after drying (without heat) and mounting in xylol balsam, under an oil-immersion lens. The whole operation, from the withdrawal of the blood to the mounting of the stained film, can be done within seven or eight minutes and no reagent is needed beyond a few drops of the stain and a little distilled water. Where the latter is unobtainable, rain water or soft hydrant water may be used without greatly affecting the results. The soaking in distilled water for a minute after the staining is important as intensifying the Romanowsky stain; it removes the remains of the deposits and changes the tint of the red blood corpuscle from a greenish blue to a transparent pink, or greenish, and nuclei of the leucocytes usually a ruby-red. The nucleated red cell is stained almost black with sharp outlines, and the extranuclear portion, gray. The blood plates are deep ruby-red with spiky margins, frequently showing a pale blue peripheral zone surrounding the red center. The bacilli and micrococci generally stain evenly blue, but, by prolonging the period of staining and decolorizing with absolute alcohol, many interesting differences may be noted in the different organisms, bringing out the structural details not generally observed with other methods. The body of the malaria parasite stains blue, and its chromatin, ruby-red. In the case of the tertian parasites Schueffner's dots are well marked in the containing red corpuscles.

The Value of Neisser's Stain in the Diagnosis of Diphtheria. R. M. Beaton, F. Foord Caiger and Walter C. C. Pakes.—The authors have studied the comparative values of the Neisser's stain and the methylene blue stain and find from their investigations that the former is a valuable one in several ways: "1. A positive diagnosis is rendered more certain for those who can not be considered as experts, since it is often easier to diagnose the Klebs-Loeffler bacillus after staining by Neisser than after staining by ordinary methylene blue, as we think that for the inexperienced the bacilli after staining by Neisser's method are much more characteristic than after staining by methylene blue. 2. A trustworthy positive result may be obtained from the microscopic examination of a preparation made direct from the swab, and this method is, we think, not only more reliable when Neisser's stain is used, than when the ordinary methylene blue is employed alone, but is more obvious. 3. The use of Neisser's stain does not appear to introduce any fallacy not found in the application of other methods."

Pneumococcus Peritonitis.—Three cases of pneumococcus peritonitis are reported and the condition discussed. Bryant finds that it rarely occurs in adults and when it does, men are more liable to be affected than women. In children, on the contrary, girls are much more frequently attacked. Why the peritoneum should be attacked by the pneumococcus is not clear. The source of infection may be by the alimentary canal. The fact that pneumococci are frequently found in the mouths of healthy people would indicate that they can be easily introduced into the digestive tract. The possible explanation as to the reason that the peritoneum is so rarely affected by this organism are that the ordinary digestive fluids are inimical to its growth and development. If, however, there is a severe gastro-intestinal disturbance of any sort there will be not only a general lowering of bodily resistance and lowered local resistance, but also an altered condition of the secretions. This may predispose to the growth and development of the germ and allow its passage by means of the blood vessels and lymphatics to the peritoneum itself. The large proportion of girls to boys would indicate that there is the possibility of infection taking place through the Fallopian tubes or uterine blood vessels, but the rarity in adults would not agree with this. He is inclined to think from the chemical and pathologic evidences that the primary infection of the peritoneum is probably through the alimentary canal, with a subsequent general blood infection leading to pleural infection. When the peritoneum is infected through the lymphatics, it is nearly always secondary to pneumonia or pleurisy, and the part of the peritoneum most involved is that covering the upper part of the liver and spleen. In some of the cases of local pneumococcus peritonitis the organism may be conveyed from the uterine cavity to the peritoneum by the lymphatics and not by the Fallopian tubes, and he thinks that when the infection is carried in this way the peritonitis is much more likely to be local than general. The skin is another possible channel by means of which the pneumococcus can reach the peritoneum, but thus far he has seen no cases that point to this manner of infection.

The Pathogeny of Exophthalmic Goiter. E. Gley.—The theory of the pathogeny of exophthalmic goiter is discussed by Gley, who says the old idea of its being a cardiac condition or a pure neurosis is generally abandoned. The hyper-thyroidization theory, however, is still held to some extent, but he points out the difficulties, and the fact that thyroid alimentation may even benefit this condition in some cases, is a difficult one to explain by it. The idea of sympathetic excitation has also its difficulties. The phenomenon in its turn needs an explanation; what causes this excitation of the sympathetic is not stated by those who hold this view. The theory of the part played by the parathyroid bodies in this condition is to be considered, and he goes to some length into the physiology of these organs, maintaining that they are functionally associated with the thyroid and that the proteo-iodid substance is not produced in the thyroid without the assistance of the parathyroids. If the latter are altered its production is diminished, hence we come to the theory that exophthalmic goiter is due to alteration in the thyroid apparatus involving in the first place functional disturbance of the parathyroid bodies. He refers to the researches of Oliver, Schaefer, and Haskovee

showing that the extract of the thyroid produces a stimulative action on the sympathetic and a depressant antitoxic action on the heart. In exophthalmic goiter Haskovec concludes that the thyroid gland is diseased and the mechanism by which the symptoms are produced is by entrance into the organism of toxic substances, having a selective action on the sympathetic system. Gley asks, may we believe that the toxic substances result from lowered functional activity of the parathyroid glandules because of the inability of the secondarily diseased thyroid to neutralize them? The question, however, can not be definitely answered.

On the Urine in Tuberculous Infection. ALEX. G. FOULERTON AND WILLIAM T. HILLIER.—The authors have investigated the urine in cases of tuberculous infection by chemical and microscopic examination, and by animal inoculation experiments have tested also for albuminuria, urea, diazo reaction, etc. They summarize their inoculation experiments as follows: Of 18 patients suffering from more or less chronic, tubercular, pulmonary phthisis, the urine contained bacillus tuberculosis in 9; in 6 of these, the absence of tuberculosis of the urinary tract was proven by postmortem examinations and there was no reason to suspect that the condition existed in any of the other 3. So far, therefore, as they can generalize from a series of only 18 cases it can be said that the urine of 50 per cent. of the far advanced cases of tuberculous pulmonary phthisis, contained bacillus tuberculosis, virulent to guinea pigs. In only 1 of these 7 cases examined postmortem was there any evidence of infection of the kidney. While the facts show that general blood infection as evidenced by the presence of the bacillus in the urine is more common in cases of consumption than generally supposed, it also shows that when it invades the blood, it does so usually in extremely small numbers and has but little tendency to multiply there, and that any occasional bacilli that may get into the blood stream are eliminated by the kidneys. These glands show only a slight tendency to become infected in the process. They suggest that it is probable that the patient in many cases of phthisis is undergrowing a gradual process of auto-immunization and that after a time the tissues generally are less susceptible to infection than when the pulmonary infection occurred. Only in this way can we explain the fact that, considering the frequency with which the germs get access to the blood, dissemination of the tuberculosis is comparatively uncommon in chronic, tuberculous, pulmonary phthisis. They do not apparently find much to indicate the value of guinea-pig inoculation in the diagnosis of tuberculosis. In a number of cases 2 c.c. of urine were injected into healthy animals, and careful observations made to ascertain whether such urine showed any difference as regards the immediate toxicity from the urine of healthy individuals, but none was detected.

Bacteriology of Cerebrospinal Meningitis. A. W. NUTHALL AND W. HUNTER.—The following are the authors' conclusions from their studies of the literature and examinations in cases of disease: "1. In 10 cases of meningitis a diplococcus was isolated from the cerebrospinal fluid obtained by a lumbar puncture during life. 2. This diplococcus agreed in its morphologic and biologic characteristics with the diplococcus intracellularis meningitidis of Weichselbaum. 3. The diplococcus occurred in two slightly different forms—types A. and B. 4. In some cases the diplococcus was present in pure culture, in others associated with micro-organisms—for example, bacillus influenzæ and bacillus tuberculosis. 5. The clinical picture and pathologic changes found in these cases were those met with in posterior basal meningitis. 6. In all probability posterior basal meningitis is a sporadic form of cerebrospinal meningitis and is caused by the same micro-organisms—the diplococcus intracellularis meningitidis of Weichselbaum. 7. In the majority of the cases it was impossible, from the clinical aspect alone, to make a correct diagnosis of the variety of meningitis present."

Contribution to the Histo-Pathology of Yaws. J. M. H. MACLEOD.—The following is a summary of the histologic changes which MacLeod finds suggesting that yaws and syphilis are different histologic entities: "1. Cellular infiltration.—The plasma cells are not so definitely clustered around the vessels in yaws as they are in syphilis, nor do they ever form foci suggesting a tuberculous nodule, as they occasionally do in the latter disease. They are seldom arranged in rows which frequently occurs in syphilis. Large multinuclear cells (chorioplaques) and true giant cells, which may be present in syphilis, are absent. No hyaline degeneration, such as may be found in syphilis, is detected in the plasma cells. 2. Fibrous stroma.—The rarefaction of the collagen is more marked in yaws than in syphilis; organization is not detected, and the colloidal degeneration, such as occurs in a syphilitic gumma, is absent. 3. Blood vessels.—There is no tendency to thickening of the vessel wall or to endothelial proliferation, such as so frequently pertains in syphilis. 4. Epithelium.—The proliferative changes in the epidermis in yaws are only equalled in syphilis in the condylomata, while the marked tendency of the stratum corneum (hyperkeratosis), which is an invariable characteristic in yaws, is unusual in syphilis."

The Lancet, September 21.

The Occurrence of Green or Blue Urine and Its Most Frequent Cause. F. PARKES WEBER.—Weber considers that a blue urine, occurring without obvious cause, is generally due to undue eating of sweets colored with methylene blue. The digestive disturbances which sometimes accompany the symptoms are probably due to over-eating of sweets, as they are not produced by much larger quantities of the coloring agent taken by itself. He is skeptical as to the power of other substances to produce the symptom excepting in very rare cases.

Three Points in Practical Midwifery. G. W. ORD.—The three points in practical midwifery mentioned by Ord are as follows: 1. That the catheter is capable of saving life in the course of breech delivery. He had a case where the body was born and cord pulsating; the head, however, stopped and the cord ceased pulsating, and it seemed that the child would be born asphyxiated. He had a catheter in his bag, a silver, male instrument, and feeling his way he passed it into the child's mouth, who cried down the catheter, the chest became inflated and in a few minutes the head was born, and everything was satisfactory. In looking up the literature he found the plan suggested but not specially recommended in Playfair's work, but the case has been a surprise to every medical man to whom he has mentioned it. The catheter did its work perfectly and in such cases where the necessity of delay of three or four minutes occurs in the birth of the head, the value of this method is obvious. 2. Another point to which he calls attention is the matter of hour-glass contraction. He has in his experience found this frequently after experimental delivery and for the last six or eight years he has pursued the method of "expressing" the child after the birth of the head and has had no hour-glass cases when he has been present before the birth of the child. It seems to him that the cause of hour-glass contraction is due to quick delivery by traction of the child and is avoidable if the *vis a tergo* method only is employed. 3. This is that scoliosis is possibly caused by traction on the infant's body during birth, and that we should realize the damage we may be doing to the spine when pulling in the various directions, as we are advised in text-books. Besides the possible scoliosis another danger may occur, the suprarenal capsules may be injured. He quotes from Clifford Allbutt, who says that hemorrhages in these bodies frequently occur as results of traumatism during birth. Such hemorrhages occur more often in difficult labors and are more frequently met with in pelvic and cephalic presentations. He believes in the soundness of the use of the catheter with an after-coming head, if any hitch occurs, as opposed to traction.

Presse Medicale (Paris), September 14.

Tuberculous Rheumatism. MAILLAND.—Poncet called attention, in 1890, to the infectious pseudo-rheumatism which may accompany tuberculosis at any stage and in any of its forms. It had hitherto been considered true rheumatism, but the inefficacy of sodium salicylate, the character of the pains and the final localization on a single joint, differentiate it from chronic arthritis deformans or acute polyarticular

rheumatism, although the clinical manifestations at first are strikingly similar. The termination is different, as the lesions are not fungous, suppurating, nor destructive as in ordinary white swelling, but are merely lesions of irritation, with a fibro-plastic tendency, like the pseudo-rheumatism of infectious diseases, and may range from simple arthralgia to complete ankylosis. Mailland describes a few typical cases, including one of a tibio-tarsal osteo-arthritis presenting the clinical signs of osteo-tuberculosis. It had been preceded two months before by manifestations of articular rheumatism, localized in both shoulders. Signs of tuberculosis were found in both apices. In another case, the knee and both ankles had been affected with supposed acute articular rheumatism at intervals during fifteen years. Finally the pain in the knee became chronic and the affection was recognized as a tuberculous arthritis, soon followed by death in tuberculous cachexia. Characteristic tubercular granulations were found in the pleuræ at the autopsy. In a third case, supposed rheumatism of the shoulder, wrist and knee finally localized exclusively in the knee, which became completely ankylosed. Death from pulmonary tuberculosis occurred in eight months. Tuberculous rheumatism is probably due to the action of the toxins generated by the bacteria. The pain in these infectious pseudo-rheumatisms is usually most intense in the center of the articulation. In true rheumatism, the surrounding parts are most sensitive. Lasegue even claims that there is no intra-articular pain in acute articular rheumatism, and that the joint can be worked without much pain, if the surrounding parts are spared, while in infectious pseudo-rheumatism, this is impossible, as the pain is in the very depths of the joint. When in presence of a case of pseudo-rheumatism, with no gonorrheal nor puerperal antecedents nor any infectious disease capable of inducing such disorders in the joints, the possibility of tuberculosis must be borne in mind. The tuberculous pseudo-rheumatism may be the first clinical symptom of incipient tuberculosis. The treatment is the same as that of any established tuberculosis.

Revue de Chirurgie (Paris), September.

Resection of the Gasserian Ganglion. K. Sapejko.—In most cases of neuralgia involving the fifth nerve, when the pains are limited to one or two branches, and when the effect of peripheral section of the nerve persists for at least six months, the neuralgia is evidently of peripheral origin. But when the pains are located in all three branches, even alternately, the neuralgia must be due to an intracranial affection of the trifacial system. If the pain is confined strictly to one side of the face, the Gasserian ganglion or possibly the root of the nerve, is probably the seat of the trouble. If the pains pass from one side of the face to the other, the central nuclei of the trifacial nerve are probably involved. The majority of cases of peripheral neuralgia can be cured by resection of the nerves affected, but when a rebellious neuralgia invades all three branches—thus demonstrating its central origin—the Gasserian ganglion should be resected without causing delay by preliminary operations. The most plausible supposition in this case ascribes the seat of the lesion to the ganglion. In the cases also, in which the neuralgia has persisted after resection of the peripheral nerve, the removal of the ganglion offers a last resort, to destroy the nerve and render regeneration of the peripheral nerves impossible. Instances have been known of recurrence of this neuralgia even after resection of the Gasserian ganglion, and Sapejko reports a case of this kind in detail. He attributes recurrence to the immense anatomical and technical difficulties of the operation. Some fiber must have been left which finally succeeded in closing the circuit, with recurrence of the pains in consequence. In his patient, sensation returned first at the periphery, followed by faint echoes of the previous neuralgic pains. The Quénu and Krause methods do not allow sufficient access to the field of operation, and there is always danger of injury to the brain as the assistant holds it out of the way during the long and tedious operation. Sapejko has simplified it by the following technique which is comparatively simple, practicable and allows ample and effective drainage of the wound. The flap is 4 cm. long, wider at the tip than the base, which extends the entire length of the zygomatic arch. The latter is sawed across and the great wing of the sphenoid is cut to include the round and oval foramina. This allows more ample access than the Krause and Quénu methods together. The brain is held out of the way by an automatic spring retractor which screws to the intact skull above, while the lower portion forms a metal mirror reflecting light on the ganglion. After isolating the ganglion, each of the three branches and the root must be pulled out and resected over as great an extent as possible. The ganglion is lifted out of its bed, and the root and first branch pulled out and torn as far from the ganglion as possible. The ganglion is then pushed to one side, and the capsule examined and scraped to remove every scrap of ganglion tissue, especially in the vicinity of the cavernous sinus, the root and the first branch. The second branch can be resected to its entrance into the infra-orbital canal. The third branch, with the ganglion still attached, is mobilized and pushed down and out through the small wound below, made for the purpose of provisional ligation of the external carotid, which is the first step in the operation. Its branches are loosened and pulled out as far from the periphery as possible before they are broken off. Connection with the otic ganglion

is also destroyed. Drainage is accomplished through the route followed in extracting the third branch. The small incision over the carotid thus serves a triple purpose. If hemorrhage is excessive and interferes with the operation, after the patient is turned with his face to the operator so that the blood can flow out readily, Sapejko advises postponing the resection of the ganglion until two or three days later. In his personal case he operated strictly according to this technique, except that he did not resect the branches, and he attributes the recurrence of the pains to omission of this precaution. He covered the eye with a tight bandage and no inconveniences were observed at any time although there was complete anesthesia of the eye. He points out the necessity of differentiating neuritis from neuralgia, as the former requires treatment directed against the cause—constitutional, infectious, toxic or local inflammation, etc.—while neuralgia never yields to medicinal treatment except in case of mistaken diagnosis or hysteria. In neuralgia the cutaneous sensibility and the reflexes remain normal, while they are diminished in neuritis; the same applies to the strength of the muscles, and no spasmodic contractions are observed as in neuralgia. The pain is also constant and less acute in neuritis. Morphin is the only relief in neuralgia and surgical intervention the only means of cure, and even this may fail unless thoroughly complete. In Garré's case, the Gasserian ganglion was resected, and the maxillary

nerve was subjected to four resections, but after nine of these partial operations, the sensibility of the face was as acute six months later as at first. This case established the possibility of regeneration of the nerves after destruction of the ganglion, of return of sensibility after resection of the ganglion and all the various resections. He found that peripheral irritations were transmitted by the most minute anastomoses of the trifacial nerve through the otic and nasal ganglia, after destruction of the Gasserian ganglion, which is usually considered as the concentrating point of all the conductors.

Malignant Leiomyomata. DEVIC.—Myomata that develop in the unstriped muscles are usually benign, but a few cases have been published in which their malignant character was evident. They are probably more numerous, but have been classed as sarcomata. Devic describes a case in which a leiomyoma developed in the thoracic wall and recurred at the same point five times after as many operations in the course of the same number of years. When extirpated for the sixth time, the microscope showed the same structure, islands of adult fibro-cells, the tumor starting and extending in the arrectores pili. In a second case a leiomyoma in the outer surface of the thigh recurred three times in a year, and amputation failed to save the patient. In his third case a subcutaneous tumor had been noted for several years in the right external iliac fossa. It began suddenly to increase in size until it was as large as two fists. It was not adherent and not ulcerated. Six months later a tumor developed in the left flank, occupying the larger portion of the abdominal cavity, with ascites, and the liver much hypertrophied, irregular and knobby. At the autopsy six months later, multiple visceral generalization of malignant leiomyomata was found in the kidneys, liver, lungs, pancreas and thyroid body. The primary tumor was entirely subcutaneous, close to the gluteal aponeurosis, but not involving the latter. The secondary tumor in the kidneys weighed 8 kilograms. Six cases of malignant leiomyomata of the uterus or pelvis have been published in Europe, and two, of the stomach, all with visceral metastases. Devic was unable to find more than one case of a subcutaneous tumor of this kind, besides the three cases which he relates in detail. In this case a hard, indolent and movable tumor was noted in the postero—external wall of the right elbow for eight years. It suddenly began to increase in size and the arm was amputated. The cachexia continued and at the autopsy a year later, all the organs were invaded by secondary tumors. The primary tumor was diagnosed "a fasciculated sarcoma or spindle-celled fibroma, developed in the periostium of the lower portion of the humerus." The corrected diagnosis at the autopsy was that of malignant leiomyoma. The interlaced fibers are more regularly arranged in the tumors than in normal tissue or benign myomata, the cut surface is more iridescent. The fibro-cells are all adult and connective stroma is conspicuous by its absence, but giant fibers with nuclei 50 to 100 microns in diameter, are observed in some cases.

Deutsche Med. Wochenschrift (Leipsic), September 19.

Outlining the Organs by Transonance. M. BUCH.—If a stethoscope with a very small funnel is applied for auscultatory percussion, it is possible to determine the outlines of nearly all the viscera with remarkable accuracy. The small funnel fits closer to the skin and locates the outlines much more exactly than the ordinary funnel. Buch applies it within the limits of the organ and carries the percussion to the boundary, which is readily recognized by the altered tone. He then transfers the funnel outside the organ and carries the percussion toward it, closing his eyes, so as not to be influenced by the mark he had placed at the outline first determined. After determining the outlines of the heart and lungs, those of the stomach can be located and also those of the other viscera, even of the spleen, colon, etc. The method is so delicate that the slight constriction, above and below, at the point where the fundus blends into the pyloric portion of the stomach is plainly evident. The percussion must be extremely light over the liver so as not to include the resonance of the stomach. Henschen was the first to call attention to this method of "transonance" as he called it. Runeberg does not tap, but rubs the skin lightly.

Muenchener Med. Wochenschrift, September 17.

Puerperal Fever. A. HEGAR.—If the temperature does not rise beyond 101 F. after delivery, and if there are no local symptoms, Hegar restricts intervention to removing obstacles to the free flow of the discharge and irrigating the vagina. Temperature of 102 and over indicates drainage, if it persists more than twenty-four hours. Besides the temperature, accelerated pulse, rapid respiration, sleeplessness, tendency to cyanosis and local symptoms are accessory indications for drainage. Hegar thinks that washing out the uterus once or thrice a day is absolutely useless. For several decades he has made a practice of permanent drainage of the uterus, leaving the canula in place and repeating the irrigation every one or two hours. He prefers for the purpose a double glass canula with even the olive divided into two parts, allowing free inlet and outlet to the fluid. He maintains this irrigation and drainage for forty-eight hours, repeating it after suspension for twelve hours, if necessary. He considers chlorin water the best antiseptic for the purpose, and uses it in a 12 to 25 per cent. solution.

Remedy for Seasickness. R. HEINZ.—The vomiting center and the respiration center are closely connected locally and functionally on the floor of the fourth ventricle. Heinz asserts that the desire to vomit can be deadened and abolished by taking deep respirations. He found in experiments on dogs that artificial respiration was able to prevent vomiting, even after the injection of apomorphin, which inevitably induces it in one to three minutes. Apnea reduces the excitability of the vomiting center and the desire to vomit subsides. He has found deep breathing effectual in warding off the vomiting of seasickness, both in himself and others.

Tamponing the Abdominal Cavity with Air to Arrest Threatening Intestinal Hemorrhage. G. KELLING.—In experiments on dogs, Kelling found that a negative pressure of 50 mm. mercury was perfectly tolerated, and that it was possible by this means to arrest serious intestinal hemorrhage. From examination of patients he believes that the pressure in the stomach vessels averages about 40 to 80 mm. Hg., and that this same method of air tamponing is clinically applicable.

Wiener Klin. Wochenschrift, September 19.

Operative Treatment of Double Stenosis of the Stomach. H. SCHLOFFER.—Stenosis of the pylorus was associated with pronounced hour-glass stomach in the case described. The patient was a woman of 54 who had suffered from gastric disturbances for twenty-five years. Finally symptoms of stenosis developed, and Schloffer operated by making a longitudinal incision, 7 cm. long, in the constricted portion of the stomach between the fundus and pyloric region. He then stretched the walls of the stomach apart, until the incision was transformed into a transverse linear wound, which he sutured in this position, perpendicular to the longitudinal axis of the stomach. The organ was adherent to the posterior abdominal wall. He then made an anterior antecolic gastro-enterostomy between the pyloric portion of the stomach and the upper jejunum, concluding with Braun's side-to-side anastomosis 20 cm. below, between the afferent and efferent loop. The patient was dismissed in sixteen days and is in far better health than for years previous to the operation. The only disturbance to date is a sensation of oppression in the stomach when she swallows food without sufficient mastication. The operation was performed at Woelfler's clinic, and the communication states that Braun's anastomosis is adopted there as a routine procedure to complete all gastro-enterostomies.

Myalgia Not Due to Getting Chilled; Its Prevention and Treatment. J. ELGART.—Ruhemann examined 7000 cases of affections of the respiratory organs and 8000 of so-called rheumatic affections, in order to determine the causal significance of becoming chilled. He became convinced that it is far from possessing the importance attributed to it, and that it has no effect except on the predisposed organism, that is, where bacteria are already present. In the absence of

bacteria, getting chilled is unable to determine the most insignificant angina or rhinitis. Knövengal came to similar conclusions from a study of soldiers in barracks, but Chodounsky's recent experiments are still more conclusive. He inoculated 102 animals with cultures after previously chilling them, reducing the temperature by eighteen degrees, and found that the susceptibility to infection was not enhanced but rather diminished. Chilling the animals even as long as eight hours, failed to induce any affection except in a few instances of slight hyperemia of the lungs, which vanished without a trace in three days. He is a man over sixty years of age and not at all robust, but he experimented on himself, exposing himself naked to a current of air of 47 F., or after running till the sweat was pouring from his body, he rapidly undressed and stood in a draft of air at 37.5 F. only quitting in forty minutes because he was so cold. In other tests, after bathing the upper portion of the body with warm water, he exposed it to a current of air of 25 F. He also dipped his shirt in water at a temperature of 41 F. and putting it on at once, remained in a strong draft in damp weather, the thermometer at 39 F., and wore the shirt the remainder of the afternoon. He found that the temperature of the body rose two or three degrees during this chilling process. When the cold acts on a heated, reddened skin, the cutaneous vessels contract and the temperature rises above normal. He formally announces that currents of air under the most extreme conditions have no action on man. They do not induce catarrh of the respiratory organs, nor articular rheumatism nor neuralgia. He attributes the greater prevalence of these affections in winter to the lesser amount of sunshine with its bactericidal potency, and to the less hygienic manner of living, housed indoors. He also points out that we use cold packs, bath, etc., in combating infectious diseases, even in those in which we ascribe getting chilled as the primal cause. (Bohemian Clinical Archives, 1900.) Elgart accepts Ruhemann's view that the presence of bacteria is an indispensable preliminary to the origin of an affection from getting chilled. However, as bacteria can not be present in sound muscles, this explanation does not apply to myalgia or myopathy. He explains them as the result of injury of some muscular fiber which is atrophied from disuse or degenerated from age or from the action of some infectious disease. The muscle is abnormally fragile and the fiber may rupture from over-strain or in consequence of the contraction of the sound fibers, in which the degenerated fiber is unable to participate. The rupture is probably accompanied by some microscopic hemorrhage, with consequent compression of the nerve terminals and pain, the myalgia, and stiffness from the instinctive desire to immobilize the part. As the extravasation is resorbed, the pains disappear. Continuous stretching of sound muscles may induce myalgia as after unusual exertion in climbing, etc., but after the muscles have become habituated to the exertion, the myalgia disappears. Lumbago frequently befalls a person as he is stepping hastily into a carriage. The trunk is bent forward, the head down, and the lumbar muscles are submitted to a sudden strain, which may rupture some fiber. Besides this idiopathic myalgia, there is the symptomatic form, accompanying various infectious diseases. The "rheumatic stiff neck" which occurs so often with a febrile tonsillitis or rhinitis, is usually first noted as the subject is washing in the morning. In bathing his face and neck he twists his head around, and some muscular fiber is ruptured. If he awakes with the stiff neck, he has probably slept with the head in some strained position. These symptomatic myalgias are liable to occur in any infectious disease, and the latter may have been so trifling that the subject never noticed or has forgotten it, but the consequent slight degeneration of the muscular uber is the cause of the rupture—not getting chilled. The more virulent the toxins in an infectious disease, the more intense the degeneration and the more fragile the muscle fibers. The prophylaxis of idiopathic myalgia consists in not allowing the muscles to become atrophied from disuse, by practicing gymnastics, sports, etc., avoiding overstrain as much as atrophy, combining and individualizing each case, with heed to the ordinary occupation, age, etc. In infectious disease, the prophylaxis is completely the reverse—here every effort must be made to avoid stretching the degenerated muscle fibers. Rest in bed protects the muscles from traumatic alterations, and during convalescence the muscles must be spared abrupt strains. Even during slight infections the muscles must be carefully guarded in the same way and gradually accustomed again to ordinary movements and exercises. Treatment of idiopathic myalgia includes diaphoretics, laxatives and massage, but the symptomatic form requires only rest. Elgart ridicules the fear of catching cold, which robs life of many of its joys and is an antiquated superstition. Appropriate nourishment and physical exercise are the true means of protection against myalgia, not precautions against getting chilled. The most warmly protected portion of the body is the lumbar region, and yet it is the chosen seat of myalgia, which is seldom if ever observed in the hands or face.

Queries and Minor Notes.

DISLOCATION OF HIP DURING LABOR.

RICHMOND, VT., Sept. 28, 1901.

To the Editor:—At the next meeting of the Vermont State Medical Society I am down for the discussion of a paper on "Dislocation of Hip During Labor." Can you give me any information on this subject, its cause, frequency, treatment, etc., or direct me to where it can be found? C. S. S.

ANS.—This subject has been extensively discussed. There are a number of abstracts in the last few volumes of THE JOURNAL. The subject was discussed at length in the German Congress of Surgeons, in Berlin, in 1899, and was noticed in THE JOURNAL, May 13, of that year. Other articles are those of Whitman, in the *Medical News* of Oct. 7, 1897, noticed in THE JOURNAL of October 14; of Wirt, in the *Cleveland Medical Gazette*, April, 1900, and abstracted in THE JOURNAL of May 12; of Bradford, in the *Boston Medical and Surgical Journal*, October 25, noticed November 11; of Bade, in the *Centralblatt f. Chirurgie*, July 7, 1900. JOURNAL of August 4; Ducrocquet, *Bulletin Academy de Medicine*, May 29, 1900, in THE JOURNAL of July 7; and Ghillini, in the *Munich. Med. Wochen.* of March 26, 1901, and THE JOURNAL of April 27. There are probably one or two other more recent ones which will be easily found on reference to back numbers.

OKLAHOMA PRACTICE LAWS.

TOLEDO, OHIO, Sept. 28, 1901.

To the Editor:—I see in your last issue an item for granting certificates to the practice of medicine in the Territory of Oklahoma. Would you be so kind as to inform me in regard to the practice of medicine in this territory? W. H. G.

ANS.—In Oklahoma one must be either a graduate in medicine or must pass an examination satisfactory to the Board. If not a graduate, one must give proof of having actually engaged in the practice of medicine for not less than five years. The fee for examination is $30. No person is allowed to practice medicine who is not of good moral character, or who is an habitual drunkard. In case the diploma is lost, proof by affidavit of the fact and the affidavit of two reputable citizens of the county in which the applicant resides, will be necessary. The fee for the registration of the diploma is $2. The secretary of the Board is Dr. E. E. Cowdrick, Enid, Oklahoma.

FRENCH AND GERMAN SCHOOLS.

NEW BEDFORD, MASS., Sept., 23, 1901.

To the Editor:—Please advise me from whom or where I can get information in regard to German and French medical schools and clinics. E. E. F.

ANS.—There is no publication available in our language, so far as we know, that gives a full account of the medical schools and clinics in Germany. A number of years ago Dr. Hun, Albany, published a work on this subject, but it has gone out of print, and would probably not be reliable for the present time. The French periodical, *Le Progrès Médical*, publishes an educational number once a year, giving an account of the French schools, but we do not know of any giving the same information for Germany. The last issue of this kind was Nov. 10, 1900. Another is probably now nearly due.

OVARIAN EXTRACT.

ST. CLAIR, MINN., Sept. 30, 1901.

To the Editor:—Will you kindly state where I can find recorded the latest observations on the use of ovarian extract in the treatment of post-operative menopause? C. J. H.

ANS.—We would refer the inquirer to Krusen's article in the *Johns Hopkins Hospital Bulletin*, of July, 1901.

SUBCUTANEOUS PARAFFIN PROTHESIS.

FINDLAY, OHIO, Sept. 25, 1901.

To the Editor:—In THE JOURNAL of July 27, 1901, p. 292, you gave an article by Gersuny on subcutaneous paraffin prothesis. I have tried to get the unguentum paraffin a number of places, but have failed. Can you tell me where I can get it? Also give me Gersuny's address. F. B. E.

ANS.—The material used by Gersuny is American white vaselin, which is soft at ordinary room-temperature. Gersuny's address is Vienna, in Austria.

The Public Service.

Army Changes.

Movements of the Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., Sept. 5 to 25, 1901, inclusive:

Harry D. Belt, contract surgeon, from duty at Fort Trumbull, Conn., via New York City, to Havana, Cuba, for assignment in the Department of Cuba.

William Donovan, contract surgeon, now in New York City, awaiting orders, will proceed to Madison Barracks, N. Y., for duty at that post.

Rudolph G. Ebert, major and surgeon, U. S. Army, to report in person to the commanding officer, Vancouver Barracks, Wash., as post surgeon, relieving Lieut.-Col. J. B. Girard, deputy surgeon-general, U. S. Army.

Joseph H. Ford, lieutenant and asst.-surgeon, U. S. Army, leave of absence granted.

William W. Gray, major and surgeon, U. S. Army, leave of absence granted.

Charles R. Greenleaf, colonel and assistant surgeon-general, U. S. Army, leave of absence granted.

Eugene H. Hartnett, lieutenant and asst.-surgeon, U. S. Army, member of a board in New York City, for the examination of officers of the line for transfer to the Ordnance Department.

Luther S. Harvey, captain and asst.-surgeon, Vols., recently appointed and now at Holguin, Cuba, is relieved from duty in the Department of Cuba, and will proceed to San Francisco, Cal., en route for assignment in the Division of the Philippines.

Herbert I. Harris, contract surgeon, from Fort Snelling, Minn., via New York City, to Havana, Cuba, for assignment in the Department of Cuba.

E. P. Howell, contract surgeon, leave of absence from the Department of the Colorado extended.

John F. Leeper, contract surgeon, now at Fort Leavenworth, Kan., will proceed to Jefferson Barracks, Mo., for temporary duty.

John R. McDill, major and surgeon, Vols., resignation accepted, to take effect Sept. 11, 1901.

Marion B. McMillan, contract surgeon, leave of absence from the Department of Cuba extended.

Clarence B. Millhoff, lieutenant and asst.-surgeon, U. S. Army, leave of absence granted.

Elbert E. Persons, lieutenant and asst.-surgeon, U. S. Army, to duty at Fort Snelling, Minn.

Henry du R. Phelan, captain and asst.-surgeon, Vols., recently appointed and now in San Francisco, Cal., will report for transportation to Manila, P. I., for assignment in the Division of the Philippines.

Irving W. Rand, captain and asst.-surgeon, U. S. Army, to duty at Fort Trumbull, Conn.

Henry I. Raymond, major and surgeon, U. S. Army, member of a board at Chicago, Ill., to examine certain persons for appointment as lieutenants in the U. S. Army; member also of an army retiring board.

Walter Reed, major and surgeon, U. S. Army, detailed as an additional officer to represent the Medical Department of the Army, at the annual meeting of the American Public Health Association, to be held at Buffalo, N. Y., Sept. 16 to 20, 1901.

George H. Richardson, contract surgeon, from Plattsburg Barracks, N. Y., to Fort Apache, Arizona, for duty at that post.

David M. Roberts, contract surgeon, now on duty at Fort Howard, Md., to proceed to Fort Sam Houston, Tex., for temporary duty, on the completion of which he will return to his proper station.

Frederick F. Russell, lieutenant and asst.-surgeon, U. S. Army, from Mayaguez, P. R., to New York City, reporting on his arrival by telegraph to the Adjutant-General of the Army for instructions.

H. Eugene Stafford, captain and asst.-surgeon, Vols., resignation accepted by the President, to take effect Sept. 20, 1901.

Richard P. Strong, lieutenant and asst.-surgeon, U. S. Army, former orders assigning him to duty at the Army and Navy General Hospital, Hot Springs, Ark., revoked; he will report in person to the Surgeon-General, U. S. Army, for temporary duty in his office, on the completion of which he will proceed to San Francisco, Cal., en route to Manila, P. I., for duty as Director of the Government Biological Laboratory, Manila, P. I.

Eugene L. Swift, major and surgeon, U. S. Army, now in this city, will proceed to Fort Leavenworth, Kan., for duty at that post.

Fred R. Underwood, contract surgeon, relieved from duty at Fort Leavenworth, Kan., to proceed to San Francisco, Cal., en route for assignment in the Division of the Philippines.

Timothy E. Wilcox, lieut.-col., and deputy surgeon-general, U. S. Army, member of a board in Chicago, Ill., to examine certain persons for appointment as lieutenants in the U. S. Army; member also of an army retiring board.

Allie W. Williams, lieutenant and asst.-surgeon, U. S. Army, relieved from further duty at Fort Columbus, N. Y., to proceed to Mayaguez, P. R., for duty at that post.

Navy Changes.

Changes in the Medical Corps of the Navy, week ending Sept. 28, 1901:

Asst.-Surgeon F. A. Asserson, Asst.-Surgeon J. W. Backus ordered to the Naval Hospital, Cavite, P. I.

Asst.-Surgeon A. E. Peck, ordered to the *Manila*.

Asst.-Surgeon C. E. Burr, resignation accepted, to take effect September 25.

Asst.-Surgeon D. C. Bebe, detached from the *Marietta*, and ordered home to wait orders, when vessel is put out of commission.

Asst.-Surgeon E. J. Grow, detached from the *Castine*, when put out of commission, and ordered home to wait orders.

P. A. Surgeon E. M. Shipp, detached from the Naval Hospital, Cavite, and ordered to the *Celtic*.

Asst.-Surgeon W. L. Bell, detached from the *Celtic* and ordered to the Naval Hospital, Cavite, P. I.

Asst.-Surgeon J. W. Backus, detached from the Naval Hospital, Cavite, P. I., and ordered to the *Brooklyn*.

Asst.-Surgeon F. A. Asserson, detached from the Naval Hospital, Cavite, and ordered to the *General Alvas*.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ended September 26, 1901:

Surgeon S. D. Brooks, granted leave of absence for fourteen days from September 29.

P. A. Surgeon H. S. Cumming, granted leave of absence for thirty days, on account of sickness, September 26.

Asst.-Surgeon S. B. Grubbs, granted leave of absence for eleven days from September 25.

Asst.-Surgeon H. B. Parker, to proceed to Jacksonville, Fla., for special temporary duty.

Asst.-Surgeon W. C. Hobdy, to proceed to South Atlantic Quarantine as inspector.

Asst.-Surgeon F. J. Thornbury, relieved from duty at Dutch Harbor, Alaska, and directed to return to the States.

A. A. Surgeon L. P. Gibson, granted leave of absence for ten days on account of sickness.

A. A. Surgeon E. B. Hallett, granted leave of absence for three days from September 24.

A. A. Surgeon A. B. McDowell, granted leave of absence for twenty days from October 12.

A. A. Surgeon Henry Owen, granted leave of absence for ten days from September 24.

A. A. Surgeon S. D. Robbins, granted leave of absence for thirty days from September 6, on account of sickness.

Hospital Steward M. R. Mason, relieved from duty at Dutch Harbor, Alaska, and directed to return to the States.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended September 28, 1901:

SMALLPOX—UNITED STATES.

California: San Francisco, Sept. 1-15, 4 cases.
District of Columbia: Washington, Sept. 14-21, 9 cases.
Massachusetts: Boston, Sept. 14-21, 9 cases.
Michigan: Detroit, Sept. 14-21, 1 case.
New Jersey: Newark, Sept. 14-21, 18 cases.
New York: Sept. 14-21, Elmira, 2 cases; New York, 3 cases, 1 death.
Pennsylvania: Lebanon, Sept. 8-15, 5 cases; Philadelphia, Sept. 14-21, 38 cases, 4 deaths.
Wisconsin: Green Bay, Sept. 15-22, 1 case.

SMALLPOX—FOREIGN.

Belgium: Aug. 31-Sept. 7, Antwerp, 4 cases; Ghent, Aug. 31-Sept. 7, 1 death.
Brazil: Rio de Janeiro, Aug. 4-18, 114 deaths.
Colombia: Panama, Sept. 9-16, 12 cases.
Egypt: Cairo, Aug. 26-Sept. 7, 1 death.
France: Paris, Aug. 24-Sept. 7, 10 deaths.
Great Britain: Aug. 31-Sept. 7, Edinburgh, 1 case; London, 92 cases, 8 deaths.
India: Bombay, Aug. 20-27, 1 death; Calcutta, Aug. 18-24, 2 deaths; Madras, Aug. 10-23, 19 deaths.
Naples, Aug. 24-Sept. 7, 182 cases, 26 deaths.
Nova Scotia: Halifax, Sept. 14-21, 9 cases, 1 death.
Russia: Aug. 24-31, Moscow, 4 cases, 2 deaths; St. Petersburg, 4 cases.
Spain: Madrid, June 17-July 15, 6 deaths; Malaga, Aug. 31-Sept. 7, 5 deaths; Valencia, Sept. 3-10, 7 deaths.

YELLOW FEVER.

Brazil: Rio de Janeiro, Aug. 4-18, 2 deaths.
Costa Rica: Port Limon, Aug. 1-Sept. 14, 12 cases, 6 deaths.
Cuba: Havana, Sept. 7-14, 1 case.
Mexico: Aug. 24-31, Merida, several cases; Progreso, 1 case.

CHOLERA.

India: Bombay, Aug. 1-27, 4 deaths; Calcutta, Aug. 18-24, 10 deaths; Madras, Aug. 10-23, 201 deaths.
Japan: Yokohama, Aug. 18-24, 1 case.
Straits Settlements: Singapore, July 27-Aug. 3, 2 deaths.

PLAGUE—UNITED STATES.

California: San Francisco, Aug. 29-Sept. 20, 4 cases, 2 deaths.

PLAGUE—FOREIGN.

China: Hongkong, Aug. 3-10, 10 cases, 12 deaths.
India: Bombay, Aug. 20-27, 203 deaths; Calcutta, Aug. 18-24, 32 deaths; Karachi, Aug. 11-25, 8 cases, 5 deaths.